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How this course manual is structured

Course overview

The course overview gives you a general introduction. Information contained in the course overview will help you determine:

- What you already know and what you need to know to explore further on your own.
- What you expect from the course.
- How much time you will need to invest to complete the course.

The overview also provides guidance on:

- Study skills.
- The main themes in other words.
- Activity icons which are about things you have to do and assess yourself to see if you have understood the key things and they also help you to evaluate change in knowledge, attitudes and skill you may have had covered before and after reading the units in the book.

We strongly recommend that you read the overview carefully before embarking on reading his book.

Structure of the Book

You will notice that the book is prepared in such a way as to provide you with foundational knowledge that you can build on. Therefore, the book is by no means exhaustive, and references provided at the end could be used for further reading. We want to first establish that the course in research methods stretches and across boundaries of many disciplines, and therefore the methods and processes used in research could be approached from many different angles. With the knowledge that you may have in investigations, you will see that they fit. Apart from this book and book II, you are expected to read widely around all the topics covered in the books. You may find the references provided at the end of the book as well as each unit useful, but you could also explore other sources of information, particularly the Internet which has a lot of websites with invaluable information. Should you need any help, please contact the department in the school of humanities and social sciences and you will be linked to the lecturer or tutor who will be of much more help than the book.

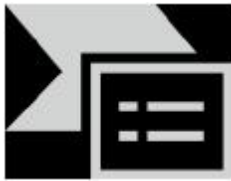
In addition, you will see that the course comes with a list of recommended textbooks, which are not necessarily compulsory to acquire, but they may be read as supplements to the course material.

Pre Requisites

This course has no pre requisites. However, you need to be conversant with key social science concepts we hope you had covered in your other social science courses because this course is rooted in social science.

Modular Study Units

There are 10 units in this book. Each unit addresses some of the learning outcomes. You will be asked to complete various tasks so that you can demonstrate your competence in achieving the learning outcomes.



Study Skills

You may not have studied by distance education before. Here are some simple tips for you to follow, which will help you do better in your learning and keep you focused- we advise that you:

- 1) Set goals such as how I will succeed in this course. At the beginning of the book, we advise that you break the lessons into manageable chunks. You might not have time to do a full lesson in one night, therefore, it will be prudent to plan how much you can do, then stick to your plan until you are done.
- 2) Establish a regular study/learning schedule
- 3) Determine what time is best for you to study
- 4) Have a dedicated study place with all the supplies you might need
- 5) Tell people what you are doing because only then are you more likely to stick to a course.
- 6) To ask someone to proofread the assignments that you write as well as your work before you submit it.
- 7) That if you do not understand something, ask your tutor, who will be able to help you.
- 8) Search for the meaning of principles and concepts instead of just memorizing them.

Required Reading

Creswell, J. W., & Plano, C. V. L. (2011). Designing and conducting mixed methods research. Los Angeles, CA: Sage.

Delanty, Gerard. & Strydom, Piet. Philosophies of Social Science: classic and contemporary readings Open University Press, 2003.

Norman Blaikie, (2010). Designing Social Research - The Logic of Anticipation. Polity, Oxford. ¹

Norman K. Denzin and Yvonna S. Lincoln. (2011). The SAGE Handbook of Qualitative Research. Fourth Edition. Sage Publications. Thousand Oaks.

Yin, R.K. (2014). Case Study Research Design and Methods (5th ed.) Thousand Oaks, CA: Sage.

Recommended Reading

Charmaz, K. (2000). Constructivist and objectivist grounded theory. In N.K. Denzin & Y. Lincoln (Eds.), Handbook of qualitative research. Thousand Oaks, CA: Sage.

Onwuegbuzie, A. J., and C. Teddlie (2003) A Framework for Analysing Data in Mixed Methods Research. In Handbook of Mixed Methods in Social and Behavioural Research. A. Tashakkori and C. Teddlie. Thousand Oaks, CA: Sage.

Patton, M.Q. (2002). Qualitative research and evaluation methods (3rd ed.). Thousand Oaks, CA: Sage.

Salkind N.J. (2013). Statistics for People Who (Think They) Hate Statistics. 5th Edition. SAGE Publications, Inc.

¹ Neuman, N.L. (2014). Social Research Methods: Qualitative and Quantitative Approaches. Seventh Edition. Pearson Education Limited. Edinburgh Gate.

Overview



Welcome to research methods module I. This

module offers an exciting journey in research, which you could use in your work. It is about researching society where you live and where you spend time working. These

This is the first book and it introduces to you the field of research as seen in the humanities and social sciences. The book will help you to appreciate the thinking around this interesting subject called research. This book, which is the first one in a series of two books, will lay the foundation for research for you. In this book, we will explore what research is. We will introduce the sources of knowledge, key concepts in research, what research is, and how research is structured. The purpose of the book is to help you to understand the sources of knowledge and apply the key philosophical assumptions and principles of research to guide you in the development and conduct of your own research.

We hope that you will reflect on the content and activities in this book coupled with your experience in the areas of specialization to develop competencies to be able to develop and manage psychological needs related issues.

Aim of Book 1

As a research student, the aim of this module is to equip you with foundational knowledge and skills in setting your work to understand what research is and to let you be started to review works as you set on developing your proposal.

1.0 Unit One –Sources of knowledge

Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Describe the two main sources of knowledge, which are amenable to what we know and how we know things.
- 2) Outline the limitations of non-scientific sources of knowledge.
- 3) Render a critique of the two sources of knowledge using the limitations approach

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever thought about how we come to know and do all the things we do?
- 2) Did you ever think our ways of knowing should be questionable because there are limitations with what we know based on our sources of knowledge?
- 3) Do you think scientific ways of knowledge would be riddled with limitations? Why or why not?
- 4) You may have to pose for a while, reflect and write down what you think about these two questions for you to get started.

Sources of knowledge in life



We all know things in life. Some of the things we know we have experienced them while for the other things we know, we have not experienced them. We also do things some times in a particular way and in at times, we tend to change. This is the nature of man.

There are many ways to gain knowledge, and some are better than others. There are two main types of sources of knowledge and these are traditional popular considered as nonscientific sources of knowledge and scientific sources of knowledge. Let us now examine these two sources of knowledge and see how they influence what we already know and what we are yet to know.

Traditional sources of knowledge

The first source of knowledge we shall examine is called traditional or lay sources of knowledge. We shall give examples of what we know about a number of things in a lay way. If I may ask you a very fundamental question. What do you know personally about the love children have for toys? Where did you get the knowledge? We normally say that children who do not have toys in the home grow up to be rather timid and slow in thinking. The question is from whom do we say so? There are a number of lay sources of knowledge we must remember. The list is endless however, the following are noted.

The first one is the playgroup during socialisation. Playgroups can be seen as providing an important function of enhancing community linkages, including building bridges between peers and families and the broader community (Oke et al. 2007²). Some of us could have the knowledge because we were trained at home or in the playgroup, that it is so. Some of the knowledge we have about things is by way of information is passed on to us while we are playing games. However, while the playgroup could be a source of knowledge, we must remember its limitations. Much of what happens in playgroup tends to come from 'The Voice of Play' of a leader who may have influence... The influence may be out of imagination or hear say.

The second way we ought to appreciate is to know from significant others. If we do not know things in the playgroups, then some significant others will influence us (Haller and

² Oke N, Stanley J & Theobald J 2007, The inclusive role of playgroups in Greater Dandenong, Brotherhood of St. Lawrence, Melbourne, pp. 1–39. Available from http://www.bsl.org.au/pdfs/Inclusive_role_playgroups_Greater_Dandenong.pdf.

Woelfel, 1972; Nina, 2015³⁴). Others call significant others as authorities. Significant others are people who exert so much influence on our lives. They could be role models and we tend to respect their knowledge and skill. When we accept what a respected or famous person tells us, we are gaining knowledge via authority. You will realise that you may have gained much of your own knowledge about methods of studying through authority figures like your college teachers. As you were growing up, your parents provided you with information that, for the most part, you did not question, especially when you were very young. You believed all that these significant others told you accepted the answers they gave you without questioning its integrity. What we may have learned from them may be valid and reliable.

We need to remember that there are limitations as well as problems may arise in situations where the perceived authority figure or role model really is not knowledgeable about the material he or she is imparting. Alternatively, the knowledge may be out of error or the knowledge may be outdated. The knowledge may be outdated, mythical or it may be a plain wrong and at times there may be little truth in what they claim (Cohen and Manion, 1994⁵; Neuman, 2014⁶). A good example is the information given in “infomercials.” In Zambia, we have seen celebrities being used to deliver the message or a testimonial concerning a product. For example, Bikilon may tell us about how nutritious a biscuit from Trade Kings is. Do you agree that Bikilon has any degree in nutrition to claim what he says? What does Bikilon know about biscuits and nutrition? Yet many individuals readily accept what he says. Thus, we need to question “authoritative” sources of knowledge and develop an attitude of skepticism so that we do not blindly accept whatever is presented to us.

The third one is experience. Many of us know things simply because we have experienced them directly. For example, you would know that a pressing iron could be painful if you were scorched. We all probably recall when we learned something because we experienced it. We get hurt when someone insults us and we tend to keep such experiences for future reference. Therefore, we can say we know about electric irons and hurts from them. However, this type of experience may not be reliable or valid at all times in life. We may touch the iron it will not hurt us. This kind of knowing has its own limitations. It is also not always the case that we have to know something because we have experienced it. What about those things we know that we have not experienced? Do you really need to go to London to know that there is Trafalgar Square?

³ Jakoby, N.(2015). The Self and Significant Others. *Toward a Sociology of Loss. Illness, Crisis, and Loss*, 23(2):110-128.

⁴ Haller, A.O., and Woelfel, J. (1972) Significant Others And Their Expectations: Concepts And Instruments To Measure Interpersonal Influence On Status Aspirations. A Reprinted from *Rural Sociology* Volume 37, No.4.

⁵ Cohen, L., & Manion, L. (1994). *Research methods in education* (4th ed.). London: Routledge

⁶ Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches*. Boston: Allyn & Bacon.

The fourth one we need to consider are media myths. We hope you do well to remember that you have read some comics, magazines novels and you do watch television regularly. We cannot underestimate how much we have come to conceptualise the world and how much of what we can now be able to do that we were unable to do before. We need to remember for instance crime and even dating has been learned from the media. From what has been seen or read or seen in the media, people have done well while others have ended up facing unrealities in life because what are projected in the media are myths.

The fifth way we have come to know things is by virtue of tradition which others call Authority of the Past. We should remember that the term traditional knowledge has come to mean the knowledge that has been passed from one generation to the next through the oral or written traditions or by master/apprenticeships (Polanyi, 1967⁷; 1983⁸). We need to remember that all cultures have traditional knowledge that is transferred from person to person and generation to generation. For example, Ngoni traditional knowledge refers to aspects of traditional Ngoni life, such as knowledge of the land and its resources, or traditional spirituality and medicine. However, all cultures change, and as they do, new knowledge is added and some knowledge is modified and some of it lost. This means that traditional knowledge changes over time. A society, which wants to preserve a fund of personal knowledge, must submit to tradition. We ought to remember that traditional knowledge may be transferred in several ways. The following are worth considering:

- Articulated rules (maxims) for guiding behaviour like rites of passage we see at initiation ceremonies, marriages, deaths and burials are some examples of indirect knowledge transfer in our African traditional system.
- Knowledge can also be passed from one generation to another in a number of ways. It is passed by storytelling and through what has been written. It can also be taught without words by showing people how to do things. An oral tradition is the passing of knowledge from one generation to the next orally (by storytelling or by songs). It is usually the responsibilities of elders to disseminate the knowledge they have gained over their lifetime and are needed to teach the younger generations.

There are also limitations with traditional ways of knowing. Some of it begins with prejudices; some of it, which is correct at the beginning, is distorted as time goes on. Often times, people who are not adept to change stick to the past. Therefore, what we see with traditional knowledge is that it may cease to hold valid truths. Some of it is

⁷ Polanyi, M.(1983). *The Tacit Dimension*. First published Doubleday & Co, 1966. Reprinted Peter Smith, Gloucester, Mass.

⁸ Polanyi, M. (1967). *The Growth of Science in Society*. *Minerva* 5(4): 533-545.

outdated (Neuman, 2014⁹). The fact that most of the sources of our knowledge are traditional condemns anti-traditionalism as futile. However, this fact must not be held to support a traditionalist attitude: every bit of our traditional knowledge (and even our inborn knowledge) is open to critical examination and may be overthrown. Nevertheless, we must remember that without tradition, knowledge would be impossible.

The sixth way we have come to know things is by intuition. Intuitions are about the inner feelings that guide you in our lives. According to Shepard (2002:38¹⁰), intuition is quick and ready insight that is not based on rational thought. To intuit is to have the feeling of immediately understanding something because of insight from an unknown inner source. For example, the feeling that arises following a decision against dating a particular person could be based on intuition. We at all times make decisions based on personal judgment, which might take place when we understand something because of insight from an inner source. This type of knowing may be used in future. Intellectual intuition and imagination are most important, but they are not reliable: they may show us things very clearly, and yet they may mislead us. They are indispensable as the main sources of our lay theories; but most of our lay theories are false anyway. The most important function of intuition and imagination is to help us in the critical examination of those bold conjectures, which are the means by which we probe into the unknown.

For example, you may have heard someone say "I don't know how I just fell for him, it's just a gut feeling" or "I don't know, it just came to me that I should like him, and I know it's true for it from within me." Another example will suffice. "Bad things happen in threes." Where does this idea come from? As far as I know, no study has ever documented that bad events occur in threes, yet people frequently say this and act as if they believe it. Some people believe that breaking a mirror brings 7 years of bad luck or that the number 13 is unlucky and they will never be booked in a hotel in room 13. In some hotels, room 13 is missing. Once again, these are examples of superstitious beliefs that are not based on observation or hypothesis testing. As such, they represent a means of gaining knowledge that is neither reliable nor valid.

However, intuition has numerous errors. It is not based on rational thought in that something that is based on rationality and logic is objective and verifiable. Intuition cannot do long term predictions. Intuition cannot do high precision predictions, and are not productive. They cannot generate new knowledge by mechanical manipulation of the existing theory since there is no such thing as "theory". Since intuition requires prior experience, intuitions are acquired by learning and lacking prior experience with an identical situation will not suffice as reliable and valid knowledge.

The seventh way is by tenacity. We need to appreciate that humans are constantly bombarded with some piece of knowledge repeatedly. By this repetitious bombardment

⁹ Neuman, N.L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches*. Seventh Edition. Pearson Education Limited. Edinburgh Gate.

¹⁰ Jim Shepard. 2002. *Sociology*. Belmont, CA: Wadsworth: Thomson Learning, pp. 38-59

of information, we are compelled to believe it is true, and then, despite evidence to the contrary, we cling stubbornly to the belief. We have seen the use of tenacity in political campaigns, where a particular slogan is repeated so often that we begin to believe it. We have also seen advertisers repeating their slogan for a certain product repeatedly until we begin to associate the slogan with the product and believe that the product meets its claims. The problem with gaining knowledge through tenacity is that we do not know whether the claims are true.

The eighth but not least way we know things is gaining knowledge via rationalism or making inferences (interpretations) by way of reasoning. Reasoning consists of all the connections, between experiences and understanding that we use to explain what we see, think and conclude. We can therefore say that reasoning and proof permeate our world, even in children's literature. Reasoning and proof are fundamental to man as a source of exploring, predicting, understanding, describing or explaining facts. From reasoning, we develop ideas about the world based on cognitive rules to arrive at a logically sound conclusion. There are three main rational ways of knowing and the following ought to be noted;

- a) Induction
- b) Deduction
- c) Abduction

Let us discuss these one at a time.

Induction

We come to know things and record them because we have observed specific instances of events in the world over and over (Gioia and Pitre, 1990¹¹; Danemark, 2001¹²) and come to a general conclusion about all these instances (moving from the particular to the general). From these many instances and we then build and refer to this knowledge as true in all instances or most of the other instances. From these observed instances, we tend pull together a number of separate and related facts of instances or particulars and organise them in patterns. We do so with a view to develop or prove a general statement (Goddard and Melville, 2004)¹³. We need to understand that inductive inferences form a somewhat heterogeneous (varied) class, but for present purposes, they may be characterized as those inferences that are based purely on numerical data, such as observed frequencies of occurrences of a particular feature in a given population. Here is an example that could help you understand what we are saying. We have often said 75% of Zambians are drunkards. Mweene is a Zambian and hence Mweene is

¹¹ Gioia, D. A., and Pitre, E. (1990). Multiparadigm Perspectives on Theory Building. *The Academy of Management Review*. 15 (4): 584-602.

¹² Danemark B.(2001). *Explaining Society: An Introduction to Critical Realism in the Social Sciences*, Routledge, Florence, KY.

¹³ Goddard, W. & Melville, S. (2004) "Research Methodology: An Introduction" 2nd edition, Blackwell Publishing.

drunkard as I presume he is in the 75% category. There may be a qualitative presentation of inductive references. Let us look at the following where statistical information may be more vaguely given, as in the premise, "Most people living in Lusaka are pompous."

What we are arguing here is that the mere fact that an inference is based on statistical data or qualitative generalisation is not enough to us classify it as an inductive one. An example will suffice. Up until the 1970s, the British had a maxim and every day they made sweeping claims. The British saw that all Prime Ministers in Great Britain were males and they believed that it would be so eternally. Nevertheless, Lady Thatcher become one.

We can see that inductive rationalisation is a good source of knowledge in that it will help us searching for what is not known or partially known. Induction will also help you as a researcher in building for patterns from observations and the development of possible explanations of the observed later on.

While we may know in inductive way, we must be wary of limitations. The greatest weakness of inductive reasoning is that conclusions or patterns may be based on limited observations. Another problem may come from incorrect observations are incorrect. If you have only seen men drinking Mosi at a bar and ignored men drinking coke at the bar, you might conclude as such. The reasoning is sound, but incorrect because the observation was incomplete or incorrect. If you stop with just a few observations and do not continue to investigate, your conclusion will not be valid no matter how firmly you believe it. Your logic can be sound but proven incorrect by further observations.

In summary then, inductive reasoning is the process of arriving at a conclusion based on a set of observations. In itself, it is not a valid method of proof as it has limitations. Just because a person observes a number of situations in which a pattern exists doesn't mean that that pattern is true for all situations. The power of inductive reasoning doesn't lie in its ability to prove statements. In fact, inductive reasoning can never be used to provide proofs. Instead, inductive reasoning is valuable because it allows us to form ideas about groups of things in real life into succinct hypotheses that we can prove using other, more reliable methods.

Deduction

We come to know things by deduction and the ancient Greeks advanced this kind of reasoning. They argued that as humans; always try to make conclusions or inferences about phenomena. If we have to make conclusions about an event, we always start with previously known facts or a general premise or a foundational principle, which is inherently true and from it, we have to deduce that a particular case or instance can then explained. Deductive reasoning involves the application of chains of statements

that are logically connected. Deduction is the way of reasoning in which proofs are presented.

An example for us will suffice here. Perhaps today, there are roadworks on Kamloops Avenue, so you will end up being late for work. The fact that road works are known to cause delays (general premise) will be the premise for being late for work (particular instance). This is what need to remember about such a method of reasoning. It is a step-by-step process of drawing conclusions based on previously known truths. Usually a general statement is made about an entire class of things (road works causing delay), and then one specific example is given (there are road works on Kamloops Avenue today).

What explanation can I give if I do not arrive late for work today? We can therefore see why any hypothesis can never be completely proved; because there is always, the scope for the initial premise to be wrong. The road works could be minor or there is a deviation or it may be a public holiday and as such, I am not delayed or I am unlikely to be delayed. Here then we see one major weakness and a trap into which we all should not fall. Deductive reasoning relies heavily upon the initial premise being correct. If this premise is incorrect, not only does it jeopardize the deductive reasoning, but the whole process of logic. Certain philosophers have argued that deductive reasoning is an unattainable ideal, and that all scientific deduction is defeasible.

In summary then, deductive reasoning is the process of arriving at a conclusion based on the general premise providing grounds for a particular instance. In itself, it is not always a valid method of proof as it has limitations. The power of deductive reasoning unlike inductive reasoning lies in its ability to prove statements. Deductive reasoning is valuable because it allows us to form ideas about groups of things in real life by testing succinct hypotheses that we can prove using more reliable methods. Although deductive reasoning seems rather simple, it can go wrong in more than one way. When deductive reasoning leads to faulty conclusions, the reason is often that the premises were incorrect. The premises used in deductive reasoning are in many ways the most important part of the entire process of deductive reasoning. If they are incorrect, the foundation of the whole line of reasoning is faulty, and nothing can be reliably concluded.

Abduction

Abduction or, as it is also often called, Inference to the Best Explanation. This is a type of inference that assigns special status to explanatory considerations. Most philosophers agree that this type of inference is frequently employed, in some form or other, both in everyday and in scientific reasoning. A general ideal will suffice for us at this point. You happen to know that the political party president of the Patriotic Front Edgar Lungu and the United Party for National Development President Hakainde Hichilema have recently had a terrible row that ended up with hatred. Now someone tells you that he just saw them dining and dancing. The best explanation for this that you can think of is that they made up. You conclude that they are no longer political foes but friends.

One morning you enter the kitchen to find a plate and cup on the table, with breadcrumbs and a pat of butter on it, and surrounded by a jar of jam, a pack of sugar, and an empty carton of milk. You conclude that one of your housemates got up at night to make him- or herself a midnight snack and was too tired to clear the table. This, you think, best explains the scene you are facing. To be sure, it might be that someone burgled the house and took the time to have a bite while on the job, or a housemate might have arranged the things on the table without having a midnight snack but just to make you believe that someone had a midnight snack. However, these hypotheses strike you as providing much more contrived explanations of the data than the one you infer to.

Walking along the beach, you see what looks like a picture of Winston Churchill in the sand. It could be that, as in the opening pages of Hilary Putnam's (1981), what you see is actually the trace of an ant crawling on the beach. The much simpler, and therefore (you think) much better, explanation is that someone intentionally drew a picture of Churchill in the sand. That, in any case, is what you come away believing.

In these examples, you will see that the conclusions do not follow logically from the premises. For instance, it does not follow logically that Tim and Harry are friends again from the premises that they had a terrible row which ended their friendship and that they have just been seen jogging together; it does not even follow, we may suppose, from all the information you have about Tim and Harry. Nor do you have any useful statistical data about friendships, terrible rows, and joggers that might warrant an inference from the information that you have about Tim and Harry to the conclusion that they are friends again, or even to the conclusion that, probably (or with a certain probability), they are friends again. What leads you to the conclusion, and what according to a considerable number of philosophers may also warrant this conclusion, is precisely the fact that Tim and Harry's being friends again would, if true, best explain the fact that they have just been seen jogging together. (The proviso that a hypothesis be true if it is to explain anything is taken as read from here on.) Similar remarks apply to the other two examples. The type of inference exhibited here is called abduction or, somewhat more commonly nowadays, Inference to the Best Explanation.

1.0 Scientific Sources of Knowledge

Now that we have appreciated how we know things in a traditional way. I now ask you to take a different view and look at knowing in a scientific way. It is argued that the best way of knowing given the above limitations of the traditional way of knowing is by way of science. There are methods of science and sources of knowledge in science. Science because of its methods has been the less dominant forms of knowledge. The methods scientists use to gather data and answer questions, which are referred to as scientific sources of knowledge, include; sampling, data collection and analysis.

Science always investigates empirically solvable problems—questions that are potentially answerable by means of currently available research techniques. If a theory cannot be tested using empirical techniques, then scientists are not interested in it. For example,

the question “Is there life after death?” is not an empirical question and thus cannot be tested scientifically. However, the question “Does an intervention program minimize rearrests in juvenile delinquents?” can be empirically studied and thus is within the realm of science.

When empirically solvable problems are studied, they are always open to the principle of falsifiability—the idea that a scientific theory must be stated in such a way that it is possible to refute or disconfirm it. In other words, the theory must predict not only what will happen but also what will not happen. A theory is not scientific if it is irrefutable. This may sound counterintuitive and you may be thinking that if a theory is irrefutable, it must be really good. However, in science, this is not so.

We must admit that clearly, the scientific method is a powerful tool, but it does have its limitations. The following are some of the limitations you need to take notice of.

The first limitation is based on the fact that for those who advance a hypothesis to conduct an inquiry, there are a number of times that a hypothesis may not be testable and falsifiable and that experiments and observations may not be repeatable. This places certain topics inconclusive and tend to be beyond the reach of the scientific method.

The second one is that science seems not to be competent to articulate what is spiritual. Science cannot prove or refute the existence of God or any other supernatural entity. Sometimes, scientific principles are used to try to lend credibility to certain nonscientific ideas, such as intelligent design. Intelligent design is the assertion that certain aspects of the origin of the universe and life can be explained only in the context of an intelligent, divine power. Proponents of intelligent design try to pass this concept off as a scientific theory to make it more palatable to developers of public school curriculums. But intelligent design is not science because the existence of a divine being cannot be tested with an experiment and science fails this area of knowledge.

The third one is related to science relying on sensory experience. Since some of our scientific knowledge is based only on human inductive sensory experience of the world, we cannot claim perfection with this knowledge because it is subject to the biological limitations of our senses. For example, we cannot be sure that our data collection tools will grant us flawless evidence. While improved technology could enhance our senses, there are still limits to technological accuracy and range of the gadgets we could use.

The fourth limitation of science is based on our senses. Science fails us when we employ our intrinsic or unconscious mental processing of our sensory data. This is because most of the times, the data is rooted in our previous experiences which cannot stand in a novel instance or new place or because previous experience was based on a very small sample. This small sample can result in either inaccurate or biased perceptions of the world.

The fifth one is that science is riddled at times with the uncertainty and limitations of knowledge. It is limited to studying the social world perfectly, especially at the level of explanation and prediction since its methods in terms of sampling, tools and analysis are limited. Its methods are humanly designed and as such are inherently riddled with human error to varying degrees, that the results may not be absolutely, eternally and infallibly valid or even reliable.

Conclusions

We have appreciated the two sources of knowledge. Each one is unique and it has led us to be what we are. The fact that this book favours science as the best source of knowledge requires some caution. If we allow science to be the final arbiter of the validity of knowledge, and to establish the threshold beyond which traditional knowledge is not worthy of its name, would create the conditions whereby an astonishing vast source of traditional knowledge is transformed into that which is not usable or reliable or valid. Instead, we would be better advised to recognize the value of it. We have to acknowledge the uniqueness of each knowledge system. We also ought to appreciate that we know things in traditional way and in a scientific way. A combination of the two sources of knowledge would help a researcher to understand social life and to try as much as possible to solve the problems that riddle society. We just have to go well beyond a mere pluralist approach to knowledge and use both in research.

We have come to the end of the unit and now I would like you to attend to the following.

Activity 1



1. Could you explain what differences exist between traditional way of knowing and the scientific way?
2. How far do you agree that we know things using logic or reasoning and which logic fascinates you and why?
3. From the work you have just read, what do you see as the main building blocks of science?
4. Are you now in a position to write short notes on at least five key concepts that we have just learnt in this unit?
- 5.

Summary 1



We have to understand that we know things in traditional way and in a scientific way. Traditional knowledge is embedded in the cultural traditions of regional, indigenous, or local communities. We have to understand that this knowledge as well has limitations, which make it imperfect. A combination of the two sources of knowledge would help a researcher to understand social life and to try as much as possible to solve the problems that riddle society.

2.0 Unit Two – Basic Concepts in Social Science Research

2.0 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Discuss the system of belief of social research that award it the status of science.
- 2) Define the key foundational concepts that are used in research.
- 3) Compare and contrast empiricism with positivism.
- 4) Demonstrate understanding of the debates or issues that led to the development of post positivism from positivism.
- 5) Describe what constitutes a paradigm.

2.1 Defining Key Concepts

Here is the point of reflection before we look at this sub unit



Reflection

- Have you ever thought of listing and discuss what you think constitutes the belief system of social research that award it the status of science? Think about the concepts science, positivism, postpositivism and paradigm? What do you think they stand for?
- Have you ever thought of an existence of communities of scientists that differ in their belief systems, the language they use and methods they promote to do things? Think and reflect on this point before you proceed to read this unit.



In any discipline, at its heart lie concepts. Concepts define what members of that community ascribe to all knowledge.

We need to appreciate that this is the case in social science research because studies of research methods provide the knowledge and skills that social scientists need to solve the problems and meet the challenges of social life. You ought to know by now that social research is an old discipline within science. As a discipline, it is about two centuries old. Thus there are social research concepts which we ought to remember that we shall be applying. As such you as an upcoming young researcher, you need to be fitted out with the basic concepts. Before analyzing the definitions of research, it is worthwhile to discuss some basic concepts related to research.

Science

It would be prudent for us to start with definition of the word science. The understanding of the concept of 'science' has for a long time been the notion of making systematic observations (Danermark et al., 2005: 16¹⁴). The word "science" comes from the Latin word "scientia" known as knowledge. According to Webster's New Collegiate Dictionary, the definition of science is "knowledge attained through study or practice," or "knowledge covering general truths of the operation of general laws, especially as obtained and tested through scientific method and concerned with the physical world." Scientific method refers to a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. To be termed scientific, a method of inquiry must be based on gathering observable, empirical, and measurable evidence subject to specific principles of reasoning (Yau and Nadis, 2010)¹⁵. If not empirical and measurable evidence, it should be based on gathering ideas subject to specific principles of reasoning. Therefore, it is very difficult to provide a definite conclusion, to distinguish Science from non-Science.

When the term 'science' is used, two things come into our minds. On the one hand, we expect you to use it to refer to a specific body of knowledge that has evolved over time and has some use to us. On the other hand, we expect you to use the word 'science' to refer to the practices in which scientists are involved, namely scientific research or inquiry. In this case, 'science' refers to activities such as answering vexing questions arising from problems in the universe or society or our minds and seeking answers to these problems. These two meanings of the word 'science' reflect the very basic

¹⁴ Danermark, B. (2002), "Interdisciplinary research and critical realism: the example of disability research", *Journal of Critical Realism (Incorporating Alethic)*, Vol. 5 No. 1, pp. 56-64.

¹⁵ Yau, S.-T., Nadis, S. (2010). *The shape of the inner space. String theory and the geometry of the universe's hidden dimensions*. NY, Basic Books.

methodology for scientific inquiry and reacted against the earlier promulgations of rationalism. The other members of the British Empiricism George Berkeley and David Hume were also its primary exponents. For empiricism the source of all knowledge must be empirical—i.e., open to the senses and able to be observed by others. Albert Einstein once said, “The only source of knowledge is experience”—i.e., open to the senses and able to be observed by others. No wonder empiricists assert that humans gain knowledge of the world through the senses, and it is assumed that our senses enable an undistorted understanding of reality. Methodologically, humans build knowledge by observing a constant conjunction of events, represented by the following: “E” has been observed regularly to follow “C,” so “C” is believed to be the cause of “E.” Following this logic, human beings acquire knowledge by manipulating variables or sets of variables through controlled experiments and observing the assumed effect of one on the other (Frauley & Pearce, 2007²⁰). This knowledge is then applied in the form of prediction.

Empiricism²¹ entails a general ontology²² of an ordered universe made up of materialistic atomistic, discrete and observed events which can only be observed (i.e., experienced or discerned by the senses²³) and which can be regarded as real and therefore worthy of attention of science. From what has been stated, empiricism proposes that our knowledge comes from experience perse of the natural world (Ayer, 1983²⁴; Turner and Roth, 2003²⁶). The chief defect of empiricism is that it views experience passively and it does not require the integration of reason. It is true to assert that experience does not by itself give necessary and universal knowledge and without reason or logic, it would not make one reach or appreciate reality (Spier, 1995²⁷) and as such, experience

²⁰ Frauley, J., & Pearce, F. (2007). *Critical realism and the social sciences: Heterodox elaborations*. Toronto, Ontario, Canada: University of Toronto Press.

²¹ Empiricism underpinned the foundation of the scientific revolution of the 17th century.

²² Ontology [Gk: being] is the branch of philosophy that concerns itself with what exists. Social scientists are faced with the ontological question of whether the ‘reality’ to be investigated is external to the individual, imposing itself on to individual consciousness from without. Or is the ‘reality’ a product of the individual consciousness. In other words is the ‘reality’ a given ‘out there’ or a product of an individual’s mind. Empiricism, notably as expounded by John Locke, David Hume, and John Stuart Mill, denied the existence of innate ideas altogether.

²³ The implementation of empiricism in the newly developed experimental sciences led to a view of knowledge, which is still explicitly or implicitly held by many people nowadays. According to this view knowledge results from a kind of mapping or reflection of external objects, through our sensory organs, possibly aided by different observation instruments, to our brain or mind.

²⁴ Ayer, A.J. (1990). *Language, Truth and Logic*. Harmondsworth, Penguin.

²⁵ Ayer, A.J. (1983). *The a priori*. In P. Benacerraf & H. Putnam (Eds.), *Philosophy of mathematics: selected readings* (pp. 315 – 28). Cambridge : Cambridge University Press..

²⁶ Turner, S.P. & Roth, P.A. (2003). Introduction. *Ghosts and the machine: issues of agency, rationality, and scientific methodology in contemporary philosophy of social science*. In S. P. Turner & P.A. Roth (Eds.). *The Blackwell guide to the philosophy of the social sciences* (pp. 1 – 17). Oxford: Blackwell .

²⁷ Spicer, M.W. (1995). *The Founders of the Constitution and Public Administration: A Conflict in World News*. Washington, D.C. George Town University Press.

must be supplemented by the activity of reason and interpretation (Turner and Roth, 2003²⁸).

Positivism

We now look at positivism. Etymologically, the word positivism comes from the Latin *positum*, the supine form of *pono*, put, set, place, or lay. Positivism, also often referred to (in various versions) as empiricism, "foundationalism," "instrumentalism," "logicism," "modernism," "objectivism," or "scientism". It is an orthodox metatheory or paradigm deployed in social science research guided by the principles of objectivity, know ability, and inductive as well as deductive logic. Although one can encounter many versions of positivism, this book addresses three variants, and these are descriptive, predictive, and explanatory positivism.

Numerous individuals have offered the scientific character of positivism over the years, however, we shall adopt that of Kolakowski. Kolakowski (1972²⁹), for example, states that positivism embraces a four point doctrine: (1) the rule of phenomenalism which asserts that there is only experience; all abstractions be they 'matter' or 'spirit' have to be rejected; (2) the rule of nominalism which asserts that words, generalizations, abstractions, etc. are linguistic phenomena and do not give new insight into the world; (3) the separation of facts from values; and (4) the unity of the scientific method. You will observe that positivism does not subscribe to reliance on words or any linguistic phenomena and values which attributes are for antipositivism views.

In terms of defining positivism, a number of scholars have advanced their view points. Delanty (2005), Elster (2007³⁰) and Hollis (1994³¹) tried out summarising the main features of positivism as follows: Positivism believes in (1) the unity of the scientific methods; (2) Search for Humean causal relationships; (3) Belief in empiricism and experimentation which are generally taken to be the model to be followed by all the sciences; (4) Science (and its process) is value-free; and (5) The foundation of science is based on logic and mathematics.

Experimentation however is not the thrust in positivism. This is one partial point of departure of positivism.

Positivism is mostly regarded as a form of empiricism, but historically this is not the case. Unlike empiricism, positivism is the philosophy of science that holds that the goal of knowledge is simply to describe the phenomena that we experience from our senses and

²⁸ Turner, S., and Roth, P. (2003). *Blackwell Guide to the Philosophy of the Social Sciences*. Oxford: Blackwell.

²⁹ Kolakowski L. (1972). *Positivist Science*. Harmondsworth: Penguin Books.

³⁰ Elster, J. (2007) *Explaining Social Behaviour: More Nuts and Bolts for the Social Sciences*, Cambridge: Cambridge University Press.

³¹ Hollis, M. (1994) *The Philosophy of Social Science*, Cambridge: Cambridge University Press. (26). Hughes, J.A. and Sharrock, W.W. (1997) *The Philosophy of Social Research*, 3rd ed., New York: Addison Wesley Longman.

where possible to explain phenomena. The purpose therefore of science according to positivists is simply to stick to what we can observe, explain, and measure. Positivism builds on a number of philosophical assumptions: an empirical realist ontology, a positivist epistemology based on description and if not equivalence of explanation and prediction, large-scale deployment of induction and deduction (van Fraassen, 2004a, 2004b; Muller & van Fraassen, 2008). Positivist researchers measure physical and social phenomena in order to characterise them and document their behaviour (Sharp et al., 2011)³².

Critique positivism

We should remember that positivism has never been a stranger to controversy and has not been without its notable critics. We shall just examine a few.

The first – and perhaps most fundamental – flaw of positivism with its logic of induction is its claim to certainty by way of observation or actualisation. Crotty argues that 'articulating scientific knowledge is one thing; claiming that scientific knowledge is utterly objective and that only scientific knowledge is valid, certain and accurate is another' (Crotty, 2003³³). Positivism claims that facts remain facts forever and this is not true. There is no logical basis for the principle of induction. Because something has been observed to happen on 10 occasions, does not necessarily follow that it will happen on the eleventh time. This means that a depth of can never conclusively verify laws temporarily and insufficient corroborated evidence.

The second criticism was argued by the Scottish philosopher David Hume (1777/1912). He postulated that that we are unable to make conclusions by induction because even if we followed infinity as a probability space of all possible events, there are always new cases and new evidence beyond infinity which may contradict the past. If we allowed additional time and space and our everyday habits to depended on drawing uncertain conclusions from our relatively limited experiences rather than on deductively valid arguments, we would be uncertain and be making serious errors. Here is an example to crown this argument. We heard the British at one time making a general claim on the basis that in the previous one hundred years, all Prime Ministers in Britain were males and they asserted by induction that it would be so eternally. It was also held in Africa based on previous observations that there would never be a female President. However, what can we say about the reliability or universality of accepting the law of induction based on limited experience when Lady Thatcher became the British Prime Minister?

³² Liz Sharp, Adrian McDonald, Patrick Sim, Cathy Knamiller, Christine Sefton and Sam Wong (2011). Positivism, post-positivism and domestic water demand: interrelating science across the paradigmatic divide. *Transactions of the Institute of British Geographers, New Series*, Vol. 36, No. 4. 501-515.

³³ Crotty, M. (2003). *The Foundations of Social Research: Meaning and perspective in the research process*. London. Sage Publications.

The third one comes from Quine. Quine argued a further weakness of positivism lies in the discrepancy between the theory and practice of the scientific method. The traditional positivist belief in objectivity does not acknowledge Quine's argument that any sensory experience must be 'mediated by the concepts we use to analyse it', and as such, 'there is no way of classifying, or even describing, experience without interpreting it' (Marsh and Stoker, 2002: 23³⁴). This degree of interpretation of data by a researcher can result in a bias towards a particular conclusion, with certain results which fail to fit currently held theories being dismissed as anomalous or even completely ignored (Quine, 2000).³⁵ This problem was developed further by Kuhn who argues that science tends to be dominated by a single paradigm which will limit the types of questions researchers will ask and the way in which they interpret their results. Contrary to the positivist claim to objectivity, the researcher is unable to become detached from their subject and approach it without prejudice. Observations which do not fit existing theories will therefore be discarded as incorrect until empirical observations become sufficient for a 'paradigm shift' to occur. After that, the process will begin again.

The fourth one is based on appeal. At first glance, the appeal of using positivism in the social sciences is obvious. Positivism promises to provide the assurances and certainties of social life which have actuality. Actualism asserts that we can only know what we observe. But this is not true. We also know things in our minds that we have never experienced before. Because of its thrust on the senses, classical positivism is criticised because it espouses a shallower form of realism. It is called shallow realism because it fails to account for underlying structures which are also real and are yet are not amenable to the five senses (see critical realism later on).

The fifth is advanced by Carnap. Carnap³⁶ (1952) an inductive logician argued that induction may lead to the generalization of empirical laws, but not theoretical laws. For instance, even if we observe thousands of stones, trees and flowers, we never reach a point at which we observe a molecule. After we see numerous divorces, we can conclude the empirical fact that husband and wife disagree on some point. But we will never discover the physics of expansion coefficient in this way. Peirce held a similar position: Induction cannot furnish us with new ideas because observations or sensory data only lead us to superficial conclusions but not the "bottom of things" (Carnap, 1952:878).

The sixth comes from Karl Popper. Karl Popper who is a falsificationist ridicules the conclusion that arises from the positivism and its logic induction. He argues that concussions in positivist induction only follow from the observation of very few instances instead of every instance of a given phenomenon for the generalization to be true and this is an obvious impossibility for man. These are some of the reasons that Popper and Medewar argued vehemently in favour of a method of scientific practice based on the

³⁴ Marsh, D. and Stoker, G., eds. (2002) *Theory and Methods in Political Science*, 2nd edn (Basingstoke: Palgrave Macmillan).

³⁵ Quine, W.V. (2000).. *I, You and It: An Epistemological Triangle*. In *Knowledge, Language and Logic: Questions for Quine*. Edited by Alex Orenstein and Petr Kotatko. Dordrecht: Kluwer.

³⁶ Carnap, R. (1952). *The cognition of inductive methods*. Chicago, IL: University of Chicago Press.

so-called hypothetico-deductive system. The essence of a hypothetico-deductive system is the formulation of a hypothesis derived from a collection of facts, testing the hypothesis by trying to 'falsify' it, collecting more facts if 'falsification' fails, and repeating the falsification tests until either you or the hypothesis agree on a draw or one of you admits defeat. Medewar (1915–1987) shared the 1960 Nobel Prize in Medicine or Physiology with Sir Frank MacFarlane for their work on the mechanism of tolerance to acquired immunity. Karl Popper (1902–1994) was knighted by Queen Elizabeth II in 1965 and elected a Fellow of the Royal Society in 1976 (Rothchild, 2006: 1)³⁷.

In spite of these limitations, we should take note, however, that some of the approaches to research developed under positivism, such as an insistence on observational based inquiry and inductive generalisation are still with us in one form or other where researchers use or do not use a conceptual framework to guide the inquiry. We still inhabit a positivist world in which observations are theory or conceptually linked. The criticism of positivism leads us to examine another concept, which is post positivism.

Post positivism

Apart from the outlined criticisms of positivism, there have been numerous disputes surrounding positivism. Because of these criticisms, the pendulum swung fully away from positivism and led to the emergence of extreme anti-realist positions such as pragmatism, critical realism, idealism (in form of interpretivism and constructivism) (Von Glasersfeld, 1984) and postmodernism (Rosenau 1992). We have seen that, at least in the social sciences, many of positivism's avowed certainties about the nature and results of scientific inquiry have been strongly challenged. Post-positivism does not suggest that positivism is no longer relevant but rather offers that something exists subsequent to positivism that also is worth considering. It is neither antipositivism nor a continuation of positivism by other means. Post-positivism describes a generic approach to knowledge, but is also implicitly an assessment of the various natures of reality. As such, it is both a broad epistemological and ontological position.

According to Ryan, post-positivism also recognizes that dualistic thinking from an objectivist or subjectivist approach is usually inadequate and that multiplicity and complexity are the reality of all human experiences (Henderson, 2011)³⁸. Post positivism has incorporated the ideas of falsificationism (critical rationalism) (popularised by Karl Popper), fallibilism and Feyerabend's methodological pluralism (Hetherington, 2000). These ideas are seen in pragmatism and other mixed methods research designs. Post positivism also does not reject quantitative methodology, but it does attempt to harness it within a more complex research design. It is more cautious concerning strong

³⁷ Rothchild, I. (2006). Induction, Deduction, And The Scientific Method An Eclectic Overview Of The Practice Of Science. Society for the Study of Reproduction, Inc.

³⁸ Henderson, K.A. (2011). Post-Positivism and the Pragmatics of Leisure Research. Leisure Sciences, 33: 341–346

and one-sided interpretations and restrained regarding the too extensive (or obsessive) use of (quantitative) data and methods.

Therefore, a number of post positivist projects emerge from positivism. These are rationalism, critical realism, intepretivism, constructivism, and pragmatism or advocacy participatory approaches. In contrast, to positivist research, post-positivist research 'is grounded on the centrality of negating theories and focussing on meaning (and often language) to human affairs' (Connelly and Anderson 2007: 215³⁹).

We have come to the end of the unit and now I would like you to attend to the following.

Activity 2



- 1) What can you say about what counts as science?
- 2) Positivism and empiricism share some attributes. What are these?
- 3) Post positivism is baby of positivism. What do you remember to have led to its birth?
- 4) From the readings in this unit, what would you prefer positivism or post positivism?

³⁹ Connelly S and Anderson C 2007 Studying water: reflections on the problems and possibilities of inter disciplinary working Interdisciplinary Science Reviews. 32; 213-32.

Summary 2



We have come to appreciate that science tends to cover general truths of the operation of general laws, especially as obtained and tested through scientific method. However, it is very difficult to provide a definite conclusion, to distinguish Science from non-Science. We have come to appreciate that empiricism is close to positivism which paradigm is used in quantitative research. Positivism has numerous limitations and as such, it led to the development of post positivism as a new paradigm to complement its limitations.

3.0 Unit Three – Debates of Social Research – Science or Not Science

3.0 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- a) Discuss the tenets of social research that grant it the status of science
- b) Identify at least three heresies of research
- c) Demonstrate understanding of the limits of social research.
- d) Compare and contrast the general kinds of research.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever heard of debates discrediting social research failing to qualify as a science? What do people say?
- 2) Research is defined by people in a number of ways. What do think research is?
- 3) You may have to pose for a while, reflect and write down what you think about the attributes of research and assess whether social research qualifies to claim that it is a science.

Introduction



In this unit, we are going to discuss the positions taken by some pundits who argue for and against social research as a science or not a science. Not everything constitutes science. Other things are not. We need to examine what the nature of science is because it establishes any discipline whether or not it qualifies as science.

You need to remember that social sciences study human beings – their behaviour, societies, and cultures – in all their variety, across time and space. Since it is about people, how can it be scientific? Someone argue that social science is not a science.

Some people argue that it cannot be a science because people are not atoms, gnus, sulphides or earthquakes and how can studying humans be called science? Another would add that the methods of exact science like experimentation and rigour do not apply in all instances – implying that those methods of natural science cannot even be applied to the letter. Further than this, how can the study of human behaviour qualify as science? Nonetheless, whatever arguments are advanced to discredit social research not meriting the label of science, there is a paradigmatic view that qualifies social research as science.

We now turn to articulate the tenets of social research as science. Social research is science because it involves systematic methods of organised research, analysis of data and the assessment of theories. It is a science because it is truth-seeking and uses a problem-solving method of inquiry (Popper, 1972).⁴⁰ As a science, social research seeks to formulate laws, concepts, and generalised uniformities of the social world just the natural science does in the natural world. In addition, social research assumes the status of science because it pursues quality and precision. Precision for instance is obtained by striving for the highest possible degree of adequacy on the level of meaning in accordance with the definition of that concept put forward above. We can weave these arguments into the following schema of ideas (Popper, 1972⁴¹:103).

Heresies and Nature of Research

We now turn to the heresies of research. The term research has been used in so many contexts and with such a variety of meanings that it is difficult for one to sort it all out. Much of what we have been taught about research is based on misconceptions. Teachers give students an assignment called a "research paper" which mainly consists of gathering information from books and encyclopaedias, reorganising it and regurgitating it on a student-authored paper. These and other activities have been mislabelled research. They are more correctly, information gathering, note taking or library skills (Leedy & Ormrod, 2001⁴²).

We can now look at the attributes of research. It is important for us to realize that science depends on precise transmission of facts and ideas. Let us see what some authors say what research is.

⁴⁰ Methods are the tools that scientists use to test how well a given theory – or a related set of concepts – accounts for an empirical event

⁴¹ Popper, K. R. (1972), *Objective Knowledge: An Evolutionary Approach*, Oxford: Oxford University Press .

⁴² Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design* (7th ed.). Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications.

- 1) Research is translation to practice of relationships between facts theory cyclically (Bless and Kathuria, 1987⁴³).
- 2) Research is a controlled empirical and critical evaluation of hypotheses or propositions about presumed relations of given phenomena (Manion and Cohen, 1994⁴⁴).
- 3) The research process is systematic in that defining the objective, managing the data, and communicating the findings occur within established frameworks and in accordance with existing guidelines. The frameworks and guidelines provide researchers with an indication of what to include in the research, how to perform the research, and what types of inferences are probable based on the data collected.

The Limits of Social Science Research

Some of the attributes of social science research that we have discussed above account for the limitations that are rooted in the nature of sociology, which is its forerunner. Since I am a scientist writing about social research and not about natural science, perhaps I should clarify some problem areas of social science research. You will have to take note of the following.

- 1) You need to know that some scholars in the natural science field judge social science research from a point of scientism⁴⁵. Scientism is many-faceted. It is, first, a philosophy of knowledge. It is an opinion about the way that knowledge can be obtained and justified. Scientism is "the belief that a science must follow after the practices and beliefs of natural scientists. They argue that natural science offers the most valuable part of human learning — much the most valuable part because it is much the most authoritative, or serious, or beneficial" (Sorell, 1991:1⁴⁶). Scientism believes that science must use only through the methods of investigation inherent of the natural science embracing experimentation and observation. Social science research is devoid of these and as such is not science they claim. They also claim that science by itself gives us reliable answers to questions about morality and epistemology, that science enables us to solve all serious human problems, and that science will give us a comprehensive and unified understanding of the meaning of the universe. They claim that social science research does not meet these criteria. Our response to scientism is that while this is the case, we do not agree with all of these positions. Indeed, science

⁴³ Bless, C. & Kathuria, M. (1993). *Fundamentals of Social Statistics: An African Perspective*. Cape Town: Juta.

⁴⁴ Cohen, L. & Manion, L. (1994). *Research methods in education* (4th ed.). London: Routledge. Connell.

⁴⁵ The word 'scientism' was coined by Hayek as a derogatory term for the view that social phenomena should be studied by the methods of the natural sciences (*The Counter-revolution of Science: Studies in the Abuse of Reason*, 1955).

⁴⁶ Sorell, T. (1991). *Scientism: Philosophy and the Infatuation with Science*. Routledge, London.

may illuminate serious ethical, epistemological, aesthetic, and metaphysical problems and suggest solutions, but, in the end, many human problems must find solutions in human philosophies, even if the answers are unsatisfactory for a variety of reasons.

- 2) Also other scholars from the empiricist school claim that empiricism is the only reliable way to know the truth. While this is so, we have to advance an argument that empiricism is not the best way to go about structuring research. While this is true, social science research has positivism which is the counterpart to empiricism. Therefore, empiricist methods are not the only methods that humans possess (at least, not the only ones discovered so far) that provide reliable knowledge about the world. One may also ask how about pragmatism and constructivism? These are also ways of knowing about the world and do give us some knowledge to some extent but not all the knowledge that empiricism would.

We have come to the end of the unit and now attend to the following.

Activity 3



- 1) In what ways have the critics of social science research discredited it as a science?
- 2) In your view, what should social science attain to qualify as a science?
- 3) Now that you know what research is, what do you consider to essential elements of research?
- 4) Social science research has limitations. What are these?
- 5) Social science research has peculiar strengths from these of scientism and empiricism. What are these?

Summary 3



We have come to understand that research is indeed from different points of view. What the definitions settle is that it is a systematic process of inquiry. Yes indeed social science research may not be perfect. It has limitations and however, it has its own peculiar areas of prowess which natural science cannot address.

4.0 Unit Four – Types of Social Research

4.0 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Identify the types of social research
- 2) Describe two situations when each type of research is used.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever heard of types of social research if you have what have people said about these types?
- 2) Could you think about the uses of these types of research?
- 3) You may have to pose for a while, reflect and write down what you think about the types of research and their uses.

Special Kinds of Research



You will observe that in the field of research, there are categorical distinctions about the type of research. We make these categorisations for purposes of asserting research activities, its utility or outlining implications. You will need to appreciate this.

Noting that the nomenclature that we use to categorise research are rather numerous, the types that we present to you below are ascribed to different audiences and you may are part of that that audience. We shall examine three special types of research under the headings, basic, applied and action research.

Basic Research

We begin by discussing basic research. Basic research (also called fundamental or pure research) is that research conducted in an original area of inquiry. Its main uses are to generate new knowledge, or for the formulation of theory or understanding of the fundamental aspects of phenomena and of observable facts. Basic research is without specific applications towards processes or products in mind. What we want to emphasise in this type of research is its primacy (Rosenshine⁴⁷ & Furst, 1971). The primary concern of this type of research is the discovery of knowledge for the sake of knowledge (Ary⁴⁸ et al., 1996) by adding to the knowledge pool or filling the gap in knowledge. It is for these reasons that Ary et al. defined basic research aiming at expanding “the frontiers of knowledge without regard to practical application” (Ary et al., 1996: 26). For example, Piaget’s initial work and genesis of his theory of intellectual development was basic research (Kolb⁴⁹, 1984).

This research is more descriptive and explorative and it is conducted without a practical end in mind although it can have unexpected results that point to practical applications. In essence, it has no practical utility soon after the completion of an inquiry. Most of basic research is done in universities for academic purposes.

Participatory Action Research

The second one that we shall discuss is Participatory Action Research (PAR) or action research. Kurt Lewin introduced the term “action research” or popularly called Participatory Action Research (PAR) in 1946 to denote a pioneering approach toward social research, which combined generation of theory with changing the social system through the researcher acting on, or in the social system. The act itself is presented as the means of both changing the system or the world and generating critical knowledge about it.

What you need to understand about PAR is that it strives to improving or changing the world (e.g conditions of work and reduce inequities through involving unions who, in turn, take actions to improve their own welfare) (Kothari, 2008: 3) and applies the process of reflection....involves using analysis of observation, listening and stepping back from the situation.

⁴⁷ Rosenshine, B., & Furst, N. (1971). Research on teacher performance criteria. In B. O. Smith (Ed.), *Research in teacher education: A symposium* (pp. 37-72). Englewood Cliffs, NJ: Prentice-Hall.

⁴⁸ Ary, D., Jacobs, L.C., & Razavieh, A. (1996). *Introduction to research in education* (5th ed.). New York, NY: Harcourt Brace College Publishers.

⁴⁹ Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

PAR has a historical ancestry, broadly and coarsely in philosophical pragmatism (Greenwood & Levin, 1998⁵⁰), critical theory (Carr & Kemmis, 1986⁵¹), experimentalism (Lewin, 1987⁵²), and political activism (Collier, 1945⁵³). PAR when successful tends to advance a framework of solutions or addresses practical problems on the spot as recognized by politicians, government bureaucrats, commercial entrepreneurs, NGOs etc. PAR may focus on:

- 1) Identifying what the real problem is if not clear and as such, it may help interpret and refine the patron's problems to make the problem researchable, and then investigates possible solutions.
- 2) Where previous research has been done, AR strives to:
 - (a) Building knowledge by way of developing policies and processes as well as guidelines.
 - (b) Advancing technology solutions like product development (Nobelius, 2004⁵⁴).
 - (c) Shape social, political, management and business values and goals.

PAR has its own methods and achieves to solve practical problems because the researchers and the people it is intended for work together as a joint project within a mutually acceptable ethical framework (Rapoport, 1970: 499⁵⁵; Leedy, 1997: 111⁵⁶). Action research is concerned to enlarge the stock of knowledge of the social science community. It is this aspect of action research that distinguishes it from applied social science, where the goal is simply to apply social scientific knowledge but not to add to the body of knowledge (McNiff, 2002⁵⁷).

Where is action research done?

Potentially everywhere, not only in professional learning contexts, though the focus on professional learning has popularised the idea of action research as a form of practitioner based enquiry. There is a common assumption that people in workplaces do action research and people positioned as knowledge workers in the academy offer theories about action research. This view perpetuates the theory-practice gap, where theory is

⁵⁰ Greenwood, D. J. & Levin, M. (1998). Introduction to action research: Social research for social change. Thousand Oaks, CA: Sage.

⁵¹ Carr, W. and Kemmis, S. (1986) *Becoming Critical*, Lewes, Falmer.

⁵² Lewin, M. (1987) 'Kurt Lewin and the invisible bird on the flagpole: a reply to Graebner', *Journal of Social Issues*, 43, 3, pp123-39.

⁵³ Collier, J. (1945) 'United States Indian administration as a laboratory of ethnic relations', *Social Research*, 12, pp275-6.

⁵⁴ Nobelius, D. (2004). Linking product development to applied research: transfer experiences from an automotive company. *Technovation* 24: 321–334.

⁵⁵ Rapoport, R. (1970) "Three Dilemmas of Action Research." *Human Relations*, 23 (6), 499- 513.

⁵⁶ Leedy, P. D. (1997). *Practical research: Planning and design* (6th Edition). New Jersey: Prentice-Hall

⁵⁷ McNiff, J. with J. Whitehead (2002) *Action Research: Principles and Practice* (Second Edition). London, Routledge.

seen as an abstract body of knowledge and practice is seen only as activity. However, when action research is seen as a living practice, the issue becomes how people can come to understand their work and think about it in a coherent way – that is, theory can become live as an aspect of practice. The issue then becomes what kind of theory is most appropriate for understanding action research processes. On the view that action research is about real people studying their own practices, the theory is embodied in the people as they offer descriptions and explanations for how they come to know and how they use their knowledge, Jack Whitehead's (1989⁵⁸) idea of 'living educational theories'.

Applied Research

The third one is applied research. Applied research programs are of two types. The first one is that it may be non-experimental taking an original investigation in order to acquire new knowledge and practices. It is, however, directed primarily towards a practical aim or may epistemically bring about knowledge gains or produces new insights. Such "application-dominated research" is the epistemically fertile part of applied research. The second one is experimental. This takes an experimental developmental approach. It is essentially a systematic work, drawing on existing knowledge gained from research and/or practical experience that is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed (OECD 1981: 25⁵⁹). However, such experimental application-dominated research is similar to epistemic research in seeking new solutions to scientific problems. It does not always achieve its goals by straightforward deduction from established principles, nor by using trial-and-error procedures (retroduction) for groping in the dark. It rather brings forth something new, a novel piece of knowledge. It is for this reason that to the current state of AR, we add a deductivist (or Popperian rationalism), inductive as well as retroductivist epistemological arguments.

Experts with a view to solve a problem in a social system employ AR. The congruence of the researcher's goals and those of the organisation where the research is to be performed serves as a reinforcement for the research team in most instances to choose the type of action research method (Rapoport 1970⁶⁰; Susman and Evered, 1978⁶¹; Susman, 1983⁶²). AR is used in business, medicine and education in order to find solutions that may cure diseases, solve scientific problems or develop technology. Action research is used in implantation science when developing policies or processes.

⁵⁸ Whitehead, J. (1989) Creating a Living Educational Theory from Questions of the Kind, 'How do I improve my practice?' Cambridge Journal of Education, Vol. 19, No. 1: 37–41.

⁵⁹ OECD. 1981. The Measurement of Scientific and Technical Activities. Paris 1981. This is the 4th edition of the so-called "Frascati manual" which for many years formed the basis for OECD's international statistics of scientific research and development.

⁶⁰ Rapoport, R. (1970) "Three Dilemmas of Action Research." Human Relations, 23 (6), 499- 513.

⁶¹ Susman, G., and Evered, R. (1978) "An Assessment of the Scientific Merits of Action Research." Administrative Science Quarterly, 23(4), 582-603.

⁶² Susman, G. I. (1983). Applied research: A Sociotechnical Systems Perspective. Ed. G. Morgan. London: Sage Publications: 95-113.

We have come to the end of the unit and now attend to the following.

Activity 4



- 1) Basic research has its uses and so are the others. Compare and contrast basic research and applied research.
- 2) What differences do you see between action research and applied research?
- 3) Which one of the three types of research is the best and explain using two variables.

Summary 4



Basic research is profoundly done in academic institutions to add to an existing pool of knowledge. Basic research cannot be used to solve practical everyday problems. However, applied research and action research share one thing. They are both linked to solving day-to-day problems in our settings.

5.0 Unit Five – Philosophical Assumptions and Research

5.0 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

1. Describe the roles of philosophical assumptions in research
2. Define the key concepts that structure the philosophical assumptions of social science research.
3. Outline what ontological, epistemological, human nature and methodological assumptions deals with in a research project.
4. Describe how ontological, epistemological, human nature assumptions shape research in selecting the data collection methods in an inquiry.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Did you ever imagine that philosophy could be linked with research?
- 2) There are myths that research could be done in a step-by-step process and you do not need guidance from philosophy.
- 3) What is your take on these two questions?

Introduction



If this is the first time, you are reading about research, this initial part may be vexing for you. Just go on reading and do not get discouraged. There is some point where this vexatious position will converge with those who have read other research books. You should however not worry.

We need to put things straight at the outset if we have to appreciate the research journey. One of the many vexing and unresolved questions you will find as a novice researcher are challenges that border on whether there is a relationship between philosophy of science and research. What we want to present to you now is that without philosophy of science being integrated in this book, research will have no grounds of

validity of scientific reasoning. Your research project has to address the canons of research which border on ontology, epistemology, human nature, and methodology in social research.

Why are we saying this if I may ask? The answer is that social research is concerned with exploring, describing, and explaining social phenomena involving human behaviour (Sufian: 1993:3), as researchers in social sciences, you and I need to be clear in our own minds about our own beliefs regarding the nature of the phenomenon under enquiry, and their relationship to it. Generally, our beliefs and purposes shape our views of the world; they determine our paradigms also.

Although philosophical ideas remain largely hidden in research (Life & Williams, 1995), they still influence the practice of research and need to be carefully identified for a proper delineation of research pathway. You and I ought to realise that it is important for research practitioners to make explicit the larger philosophical ideas they espouse, this information will help to explain why they chose qualitative, quantitative or mixed methods approaches for their research.

The truth of the matter is that while we may categorise research in many ways, you and I should as social scientists first examine and understand the philosophical level of research relating to what type of reality or evidence do we need and what ought to be the best way to use theory and select the corresponding methods. In line with definitions of the discipline of philosophy, the philosophical level of a research focuses on a number of assumptions relating to the most general features of the world, encompassing aspects such as the mind, matter, reason and proofs for knowledge (Blackburn, 1994⁶³). As will be outlined later, you will see that different research questions require different philosophical conceptualisations of truth or forms of reality.

This is the same in social research because becoming a social researcher involves learning to acquire wisdom, apply rules in life, select techniques and modes of doing things as well as techniques and modes of analysis of data through which the merits of various competing versions of theorising about reality can be assessed. To do this, researchers ought to be guided by the philosophy of science. It is the philosophy of science that wisdom resides for you to play the game of research to enable you know what to do next or how to proceed, provided you understood the rules of the 'game' and your context. The traditional goal of philosophy of science is to provide a general characterization of scientific activity and to explain why it is the way it is and why things have to be done in a particular way. Things are done in a particular way because of philosophical paradigms that seem to dictate the multiple worlds that have to be examined. Now that you and I have appreciated the foundational issues, you and I can then examine the philosophical assumptions upon which knowledge in social research is

⁶³ Blackburn S.(1994). Dictionary of Philosophy. Oxford University Press, Oxford.

based by focussing on paradigmatic dualistic typologies advanced by Burrell and Morgan (1979).

These scholars have observed that if social scientists were to do research, they would be required to be guided by four philosophical social science research assumptions.⁶⁴ It should be remembered from now onwards that these four philosophical assumptions are to some extent the bases for selecting what type of knowledge you and I need, how do you and I justify this knowledge and how do you and I go about getting this knowledge.

What this entails is that the philosophy of social research is both descriptive and prescriptive to the researcher regarding the choices that you will have to make as a researcher before and during the conduct of a study. One may ask, what are these choices then?

The first choice concerns to the nature of being/what exists in the world or what part of reality the researcher wants to focus on. This first choice relates to ontology. Scientific knowledge tends to cover what exists (reality) both the observable and the unobservable features of the social and human world. Applying ontology to social research, helps us to examine and understand whether you and I are going to measure reality which is tangible (quantitative measurement) or you and I are going to deal with reality in form of thoughts or feelings (qualitative description verbatim accounts).

The second choice is about how the researcher desires to proceed to theorise and demonstrate the truthfulness of the reality of concern. This has to do with understanding how the (mostly unwritten) rules about what is counted as knowledge are set, that is, what is defined as knowledge, who can and cannot be knowledgeable, and which knowledges are valued over others (Dooley, 1990⁶⁵). This second choice is about how to apply theory⁶⁶ on this nature of being or reality (Chalmers, 1982; Budd, 2001⁶⁷; Wilson,

⁶⁴ That is, assumptions about the nature of reality (ontological assumptions) are logically related to assumptions about the nature of knowledge (epistemological assumptions), which are logically related to assumptions about procedures for investigating what can be known (methodological assumptions). Therefore, each paradigm contains a set of assumptions that are logically related in a unique manner and have practical implications for the conduct, interpretation, and utilization of research (Guba and Lincoln, 1994).

⁶⁵ Dooley, D. (1990). *Social Research Methods*, 2nd edn. Englewood Cliffs: Prentice-Hall.

⁶⁶ Regardless of the method, the work of theory is to explain the hidden powers – processes or generative mechanisms – that produce the effects or events that we study.

⁶⁷ Budd, J.M. (2001), *Knowledge and Knowing in Library and Information Science: A Philosophical Framework*, Scarecrow Press, Lanham, MD.

2002⁶⁸; Hjørland, 2004⁶⁹). This relates to epistemology. Applying this concept to social research, helps us to decide whether theory or a conceptual framework should guide our inquiry or whether theory or a conceptual framework should be the outcome of the inquiry.

The third choice is about human nature. This relates to whether humans are free agents and or are constrained. This in essence is about the theory of values. The concept of value permeates our life at every step. We prefer one thing to another, you and I shift our attention from one event to another, you and I praise one behaviour and condemn another, you and I like and dislike, and whenever you and I do what we value (Hart, 1971)⁷⁰. Applying this concept to social research, helps us to examine and understand our own value systems and those of the groups and institutions that have an impact on and are intertwined within our research approach.

The fourth choice is ascribed to the processes of doing the research. This is about methodology. Methodology is about how you go about sampling and administering the data collection tools. It is also about how data will be analysed. Applying this concept to social research, helps us to select the best tools and to justify them.

Reading what you and I have just described above leads us to identify distinctively the four philosophical assumptions that helps us to make choices as you and I do research. We have bundled together four pairs of strands of philosophical assumptions implicit in social research thought, arguing that the strands of these philosophical assumptions may usefully be labelled in two paradigmatic axes of schemas as 'subjective' and 'objective' of doing social science research.

Burrell and Morgan argue from a historical point of view that the subjective schema preceded the objective schema as shown in table 1.

⁶⁸ Wilson, T.D. (2002), "Philosophical foundations and research relevance: issues for information research", paper presented at CoLIS4 – 4th International Conference on Conceptions of Library and Information Science: Emerging Framework and Method, University of Washington, Seattle, WA, 21-25 July, available at: <http://informationr.net/tdw/publ/papers/COLIS4.html> (accessed 10 December 2012).

⁶⁹ Hjørland, B. (2004), "Arguments for philosophical realism in library and information science", *Library Trends*. 52 (3): 488-506.

⁷⁰ Hart, S.J. (1971). *Philosophy and Phenomenological Research*. 32 (1): 29-41

Table 1 Critical elements of the schema and axes

| Strands of Theoretical Assumptions | of Subjective Axis | Objective Axis |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ontology | <p>Nominalist ontology: Reality is subjective and multiple as seen by particular participants and can take any of the three forms:</p> <ul style="list-style-type: none"> Reality is taken as a projection of imagination. Reality is taken as a social construction. Reality is taken as the realm of symbolic discourse. | <p>Realist ontology: Reality is objective and single as seen all of can take any of the three forms:</p> <ul style="list-style-type: none"> Reality is taken as contextual fields of information. Reality is taken as a concrete process. Reality is taken as a concrete structure. |
| Epistemology | <p>Humanist or antipositivist epistemology: Theorising takes any of the three forms:</p> <ul style="list-style-type: none"> Aim at obtaining phenomenological insight or revelation. Aim at understanding how social reality is constructed. Aim at understanding patterns of symbolic discourse | <p>Positivist epistemology: Theorising takes any of the three forms:</p> <ul style="list-style-type: none"> Aim at mapping contexts. Aim at studying systems, processes and change. Aim at constructing a positivist science. |
| Human Nature | <p>Voluntarism or free will: The orientation to research takes three forms:</p> <ul style="list-style-type: none"> Takes man as pure spirit, consciousness being. Takes man as the social constructor; the creator. Takes man as an actor; the symbol user | <p>Determinism: The orientation to research takes three forms:</p> <ul style="list-style-type: none"> Takes man as an information processor. Takes man as an adapter. Takes man as a responder |
| Methodology | Idiographic: | Nomothetic: |

Burrell and Morgan (1979) for instance did not include mixed methods because they believe in incompatibility of the two paradigms and most often arguing that the two were incommensurable. To begin with, you and I shall use their assumptions which creates a divide of schools of assumptions. We begin with ontological assumptions

Ontological Assumptions⁷¹ - The Nature of Being of What Reality Looks Like in the World

The word ontology is derived from the Greek *ontos* (being) and *logos* (theory or account) and can be defined as a theory of elucidating the form or structure or nature of reality. This reality could be substances or matter in the world out there or ideas in the minds of people that these aspects of reality can be studied (Hudson and Ozanne, 1988⁷²; Creswell, 2007⁷³; Latsis et al., 2007).

Most of the authors of philosophy of social research argue that ontology rather than epistemology is the starting point of doing research, after which one's epistemological and methodological positions logically follow (Grix, 2002:177⁷⁴). This position is not different from the Blaikiean thinking. Norman Blaikie argues that ontological assumptions in research are concerned with what you and I believe constitutes reality; what only exists or what it looks like, what units make up reality and how these units interact with each other (Blaikie, 2010⁷⁵) and ontology further determines what constitute "legitimate," researchable questions about what counts as reality (Guba and Lincoln, 1994).

In referring to ontology, you and I are questioning aspects of reality that could be tackled by the methods of science", i.e. questions about "the most general characteristics that anything must have in order to count as an entity" Cambridge⁷⁶ 1995, 490; Oxford⁷⁷ 1996, 240, 269). With reference to ontology, you and I intend to answer the form of the question: what must the structure of the world out there or inside of people be like for scientific knowledge to be possible? Historically, and standing by Burrell and Morgan (1979) there are two main ways that reality has been understood and defined, one fitting with realism and the other with idealism. We can now examine these two types of

⁷¹ Ontological assumptions concern the nature and form of reality and determine what constitute "legitimate," researchable questions (Guba and Lincoln, 1994).

⁷² Hudson, L., and Ozanne, J. (1988). Alternative Ways of Seeking Knowledge in Consumer Research. *Journal of Consumer Research*, 14(4), 508–521.

⁷³ Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

⁷⁴ Grix, J. 2002. 'Introducing students to the generic terminology of social research.' *Politics*. 2002. Vol 22 (3). 175-186.

⁷⁵ Blaikie, N. (2010). *Designing Social Research - The Logic of Anticipation*. Polity, Oxford.

⁷⁶ Oxford Dictionary of Philosophy. The / Audi (gen. Ed.) (1995). Cambridge: Cambridge University Press.

⁷⁷ Cambridge dictionary Of Philosophy. The / Blackburn (1996). Paperback. Oxford and New York: Oxford University Press.

ontology. When contrasted with idealism, realism is the position that the 'things' out there in the world exist, in some manner, independently of our perceptions of them. For example, people dying following election in Zambia creates the same grief whether or not observed by Zambians humans or other humans elsewhere.

We can now look at the two types of ontology. We begin with the realist ontology.

Realist ontology

Realism is the ontology that is well married to positivism which is arguably the prevalent research paradigm in social research (Orlikowski and Baroudi, 1991).⁷⁸ 'Reality' according to positivists refers to whatever is in the social world that causes the phenomena you and I perceive with our senses" (Phillips, 1997: 133). According to Outhwaite (1987⁷⁹) the important question which this ontology espouses is concerned with what must the world be like in order for science to be possible. This reality therefore is theoretically fully knowable, and can legitimately be known through fragmentation into discrete, measurable pieces that can be manipulated, correlated, and analyzed statistically by "disinterested" investigators (Jacob, 1990; Denscombe, 2010).

Positivists adhere to this ontology, and believe in the existence of an external singular type of reality, or a knowable reality that exists independently of human perceptions and interpretations (Carson et al., 1988⁸⁰; Hudson & Ozanne, 1988⁸¹; Della Porta & Keating, 2008⁸²; Denscombe, 2010⁸³; Howell 2013).

Nominalist or Relativist Ontology

Nominalism or relativism is the exact opposite of realism and deals with subjectivism or idealism. Nominalists view the social world therefore as being a product of human consciousness (Lane, 1999⁸⁴) or mentally constructed (Sekaran and Bougie, 2013⁸⁵). Thus, this approach focus on the comprehensiveness of rules and procedures used to

⁷⁸ Orlikowski, W.J. and J.J. Baroudi, Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, **2**(1): (1991) p. 1- 28.

⁷⁹ Outhwaite, C. (1987) *New Philosophies of Social Science: Realism, Hermeneutics and Critical Theory*. London: Macmillan Education.

⁸⁰ Carson, D., Gilmore, A., Perry, C., and Gronhaug, K. (2001). *Qualitative Marketing Research*. London: Sage.

⁸¹ Hudson, L. A., & Ozanne, J. L. (1988). Alternative ways of seeking knowledge in consumer research. *Journal of Consumer Research: An Interdisciplinary Quarterly*, **14**, 508–521.

⁸² Della Porta, D., & Keating, M. (2008). How many approaches in the social sciences? An epistemological introduction. In D. Della Porta, & M. Keating (Eds.), *Approaches and methodologies in the social sciences: A pluralist perspective* (pp. 19–39). UK: Cambridge University Press.

⁸³ Denscombe, M. (2010). *Philosophy*. In M. Denscombe (Ed.), *Ground rules for social research: Guidelines for good practice* (pp. 116–138). England: Open University Press.

⁸⁴ Lane, D.C. (1999). Theory and Methodology Social theory and system dynamics practice. *European Journal of Operational Research*. **113**: 501-527.

⁸⁵ Sekaran, U., and Bougie, R. (2013). *Research Methods for Business*. John Wiley & Sons, West Sussex.

achieve connections in the real world. From this perspective, the capture and creation of knowledge is based on observations and interpretations of the social practices (Ryan et al., 2002⁸⁶). Its intrinsic qualitative nature drives researcher into an ontological dimension in which knowledge is created from the individual interaction within groups, organizations and networks (Von Krogh, 1998⁸⁷). As mentioned by Senik (2009⁸⁸), this perspective has social subjectivity and declared disagreement between positivist approaches you and I have discussed earlier.

What you and I see then in this ontology are facts that point to nominalism denying objective absolutism. In one form, it denies ontological absolutism; in another, it also denies epistemic absolutism that there is but one objectively correct characterization of reality. Nominalist ontology for instance avoids rigid structural frameworks that inform knowledge such as in positivist research scientific methods and adopts a more personal and flexible research structure (Feyerabend, 1975⁸⁹ Carson et al., 1988⁹⁰; 2001; Black, 2006⁹¹).

What you and I see in this ontology is that the social world is assumed to reside inside of people and it is attached to an individual's cognition or feelings. It is for this reason that Burrell and Morgan (1978) and Flood and Jackson (1991⁹²) claim that nominalism takes the view that the world has a subjective nature.

Epistemological Assumptions⁹³ - The nature of justifying how we know Reality

Now that you and I know we have the duty at all times to indicate our ontological orientation or the reality to focus on when doing research, you and I must then look at epistemology. A Scottish philosopher James Frederick Ferrier (1806 – 1864) introduced the term Epistemology. The field is sometimes referred to as the theory of knowledge and this is because its subject are issues that are concerned with the type of knowledge that is possible and the means by which it can be communicated (Lane, 1999⁹⁴;

⁸⁶ Ryan, B., R. Scapens, R., Theobald, M. (2002). Research method & Methodology in Finance & Accounting. Thomson, London.

⁸⁷ Von Krogh, G. (1998). Care in Knowledge Creation. California Management Review, 40 (3): 133-153

⁸⁸ Senik, R. (2009). Understanding Accounting Research Paradigms: Towards Alternative Methodologies Integration and Dissemination: 5-8.

⁸⁹ Feyerabend, P. (1975). Against Method: Outline of an Anarchistic Theory of Knowledge.

⁹⁰ Carson, D., Gilmore, A., Perry, C., and Gronhaug, K. (2001). Qualitative Marketing Research. London: Sage.

⁹¹ Black, I. (2006). The presentation of interpretivist research. Qualitative Market Research: An International Journal. 9. (4): 319–324.

⁹² Flood RL, Jackson MC. 1991. Creative Problem Solving: Total Systems Intervention. John Wiley & Sons: Chichester.

⁹³ Ontological assumptions concern the nature and form of reality and determine what constitute "legitimate," researchable questions (Guba and Lincoln, 1994).

⁹⁴ Lane, D. (1999). Social theory and system dynamics practice. European Journal of Operational Research 113: 501-527.

Schwandt, 2001⁹⁵; Moser, 2002⁹⁶; Blaikie, 2010⁹⁷). Epistemology provides (among other things) an account of knowledge and justification, of how knowledge is grounded, of their sources, and of their interconnections. To justify knowledge you and I already have or which we intend to have, you and I can then must select an adequate method of using theory in a research project and this requires indicating a justificatory strategy (Harding, 1987:2⁹⁸).

All this pursuit of true belief to be adequate and legitimate, brings us to appreciate epistemology that part of philosophy that deals with the manner of theorising reality (Crotty, 1992⁹⁹; Blaikie 2010¹⁰⁰) or the theory of logical discourse. Epistemology as such asks questions like: "What can you and I be sure of?" "How do you and I get beyond mere opinion to real knowledge? If you and I follow Burrell and Morgan (1979¹⁰¹), we notice that there are two leading schools of epistemology and these are the positivist and humanist epistemologies. We can now look at the two types of epistemology. Below we discuss the two schools and these are the positivist epistemology school and humanist epistemology school. We begin with the positivist epistemology and follow with the humanist epistemology.

The Positivist Epistemology School

The positivist epistemology school sees knowledge being justified by using concepts, theories or generalizable laws, which act as shorthand summaries of particular observations. The objective positivist epistemology has two epistemological sub divisions and these are the inductive realist epistemology and the critical rationalist epistemology. We shall discuss them below.

⁹⁵ Schwandt, T.A. (2000). Three epistemological stances for qualitative inquiry. In N. K. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 189-214). Thousand Oaks, CA: Sage.

⁹⁶ Moser, P. (2002). Introduction. In P. Moser (Ed.), *The Oxford handbook of epistemology* (pp. 3-24). Oxford, UK: Oxford University Press.

⁹⁷ Blaikie, N. (2010). *Designing Social Research - The Logic of Anticipation*. Polity, Oxford.

⁹⁸ Harding, S. (1987). Introduction: is there a feminist method? In S. Harding (Ed.), *Feminism and methodology: Social science issues* (pp. 1-14). Bloomington: Indiana University Press.

⁹⁹ Crotty, M. (1998). *The foundations of social research*. London. Sage Publications.

¹⁰⁰ Blaikie, N. (2010). *Designing Social Research - The Logic of Anticipation*. Polity, Oxford.

¹⁰¹ Burrell, G and Morgan, G. (1979). *Sociological paradigms and the organisation analysis*. London: Ashgate.

Inductive Realist Epistemology

The inductive realist epistemology is an offshoot of Aristotelian induction which dates as far back as the 4th-century. In the inductive epistemology, induction and concept-formation are closely related. The realist inductive epistemology operates on two sub epistemological premises that only help in exploring and describing phenomena and not explaining or testing them (see figure 1 below). The two sub epistemologies are mutually exclusive. The first one is Classical Inductive Realist Epistemology and the second one is the Modified Inductive Realist Epistemology.

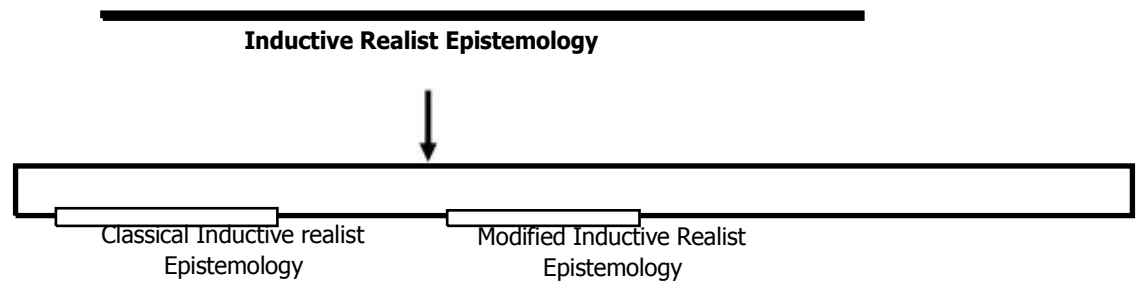


Figure 1: Schema of inductive realist epistemology

Let us see what this epistemology says. The classical inductive realist epistemology, takes a total idiocy perspective in conducting the inquiry. The researcher enters a state of epoché, which at times is called the Pyrrhonian expression for the suspension of judgment (Hattiangadi, 2012¹⁰²). The classical inductive realist epistemology is not driven by what the researcher knows a priori and not even, by what is vouched in the literature. The researchable question is based on nothing known. It is no wonder it is considered in a pejorative way as the logic of total idiots. This logic does not find anything of in the literature about some phenomena and no conceptual framework could be cleaved from the literature as a source of justification of knowledge since there is nothing known about the phenomenon. The quotation of Francis Bacon below sets the thinking within this epistemology (Zevin, 2013).¹⁰³

"Men have sought to make a world from their own conception and to draw from their own minds all the material which they employed, but if, instead of doing so, they had consulted experience and observation, they would have the facts and not opinions to reason about, and might have ultimately arrived at the knowledge of the laws which govern the material world."

¹⁰² Hattiangadi, J. (2012). The Theory and the Craft of Breaking through in Science. Manuscript in Preparation.

¹⁰³ Zevin, J. (2013). Creative Teaching for all. In the box, out of the box and off the Walls. Roman and Littlefield Publishers. Lanham.

On the other hand, the Modified Inductive Realist Epistemology, takes a partial idiocy perspective in conducting the inquiry. This sub epistemology searches for foundational leads in form of concepts to guide the research in the literature. For this reason, a conceptual framework of the study becomes the building block. Researchers who use a conceptual framework take it as a mind map, which is a form of a structured approach to map out ideas on any topic. This approach uses conceptual mapping to help clarify key research issues helps researchers to operationalise outcome measures for their study. The concept mapping method is not the only method around that might help researchers formulate good research problems and projects. A conceptual framework in essence builds a structure or "concept" of what has been learned in a particular area of study. Researchers use a conceptual framework in studies where existing theory is inapplicable or insufficient to address phenomena of interest or when the thrust of the study is about what questions which demand an exploratory or descriptive approach. I must be quick to dispel the loose usage of this term and it being conflated with the theoretical framework. The current usage of the terms conceptual framework and theoretical framework are vague and imprecise.

Critical Rationalist Epistemology

The critical rationalist epistemology shares the same ontology with the realist epistemology. The difference lies with the epistemological assumption. Critical rationalism shares to some extent arguments with deductive reasoning (Barnes, 1995¹⁰⁴). The epistemology of critical rationalism is theory centred. A critical rationalist does not necessarily assert that there is no 'truth' or 'falsehood'. The critical rationalist merely asserts that 'truth' and 'falsehood' are relative values and as such are useful in establishing a meaningful context (Popper, 1963, 1974 Hans, 1985¹⁰⁵). In order for us to understand how the rationalist epistemology is used, you and I are going to look at theory.

A major function of theory is to provide a model or map of why the world is the way it is (Strauss, 1995). Thus, theories explain how and why something functions the way it does (Johnson & Christensen, 2007: 7¹⁰⁰). Theory or model are starting points in a deductive project to justify starting with pre-commitments to independent variables, background factors, or structural conditions (Layder, 1997¹⁰⁷; Blaikie, 2010). A model is a simplification of the theory aimed at clarifying and explaining some aspect of how the world works or how events arise (Kaplan, 1964: 263¹⁰⁸; Sheth, 1967¹⁰⁹: 444; Coombs et

¹⁰⁴ Barnes, J. (1995). *Life and Work*. The Cambridge Companion to Aristotle. Cambridge University.

¹⁰⁵ Hans, A. (1985), *Treatise on Critical Reason*, Princeton: Princeton University Press.

¹⁰⁶ Johnson R. B, & Christensen L.B (2007). *Educational Research: Quantitative, Qualitative and Mixed Approaches*. NY: Sage Publications.

¹⁰⁷ Layder, D. (1997). *Modern Social Theory. Key debates and new directions*. Routledge. UCL. Press.

¹⁰⁸ Kaplan, A. (1964). *The conduct of inquiry*. San Francisco: Chandler.—A thoughtful analysis of the philosophy of science.

¹⁰⁹ Sheth, J. N. (1967). A review of buyer behaviour. *Management Science*, 13, B718–B758.

al., 1970: 4¹¹⁰; Carnap, 1971: 54¹¹¹). Therefore, the rationalist epistemology uses theories systematically by organizing ideas to explain particular phenomena (Boss et al., 1993). It achieves this by deriving from the theory a conditional statement that could be used to justify how you and I know.

Humanist epistemology

This epistemology is linked to the nominalist ontology. This epistemology takes an anti-positivist stance and it takes knowledge to be personal, concerned with personal experience and insight, almost spiritual in nature, and lacking laws. Knowledge in this epistemology is not 'revealed', as implied by positivism, but 'manufactured' by specific actors.

This epistemology has two main epistemological variants and these are the interpretivist and constructivist epistemologies. In the humanist epistemology, knowledge is derived from everyday concepts and meanings¹¹² of things that social actors do (i.e., relying on common sense terms and typical situations) to symbols or concepts that they use situationally or on a day-to-day basis.

To get these meanings, social researchers enter the everyday social world to obtain ideas as a form of reality (e.g., through participation observation and ethnographic style fieldwork) in order to grasp the socially constructed meanings, and then reconstruct these meanings in a social scientific language. This epistemology assumes that what you and I know is imprinted on our minds is a constructed form of reality (Smith, 1983¹¹³; Guba & Lincoln, 1989¹¹⁴) and it does not necessarily reflect any external "transcendent" realities. The fact that this epistemology is linked to multiple reality inherent of nominalism or relativism, theory is expected to emerge during the inquiry.

This epistemology has two variants and these are interpretivism and constructivism. We can then look at each one separately.

¹¹⁰ Coombs, C., Dawes, R., & Tversky, A. (1970). *Mathematical psychology: An elementary introduction*. Englewood Cliffs, NJ: Prentice-Hall.

¹¹¹ Carnap, R., & Jeffrey, R. (Eds.). (1971). *Studies in inductive logic and probability* (Vol. I). Berkeley: University of California Press.

¹¹² "Meaning" here may be of two kinds. The first one is related to the actual existing meaning in the given concrete case of a particular actor, or to the average or approximate meaning attributable to a given plurality of actors. The second one is related to the theoretically conceived pure type of subjective meaning attributed to the hypothetical actor or actors in a given type of action.

¹¹³ Smith, J. K. (1983). Quantitative versus qualitative research: An attempt to clarify the issue. *Educational Researcher* 12: 6–13.

¹¹⁴ Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.

The Interpretivist Epistemology

This epistemology assumes that there is no single correct knowledge or fact about life and that there is no one only way of expressing meaning of concepts or human action. Interpretivists believe humans have multiple subjective experiences of the world. It is for this reason that interpretivism as an epistemology holds the position that reality is multiple and relative (Hudson and Ozanne, 1988¹¹⁵). Lincoln and Guba (1985¹¹⁶) for instance explain that these multiple realities also depend on other systems for meanings, which make it even more difficult to interpret in terms of fixed realities unlike the position taken by quantitative researchers. Thus, a social actor can apprehend no single "objective" reality, and this reality is understood as local and specific, impossible to study without understanding individual's interpretations of it (Avramidis & Smith, 1999¹¹⁷; Lincoln and Guba, 2000; Della Porta & Keating, 2008).

We have to observe that for interpretivist researchers it is important to understand motives, meanings, and other subjective experiences which are time and context bound (Hudson and Ozanne, 1988; Lincoln and Guba, 2000;¹¹⁸Neuman, 2014¹¹⁹). The key in this epistemology is to understand (or *verstehen*¹²⁰), not to explain and predict as in the naturalist' methodology.

Interpretivists assume that we know things because others express their ideas by use of language about shared meanings. We come to know things because people assign meaning to a given reality (Deetz¹²¹, 1996; Aikenhead, 1997¹²²; Myers, 1999; 2009¹²³).

¹¹⁵ ¹¹⁵ Hudson, L., and Ozanne, J. (1988). Alternative Ways of Seeking Knowledge in Consumer Research. *Journal of Consumer Research*, 14(4), 508–521.

¹¹⁶ Lincoln, YS. & Guba, EG. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

¹¹⁷ Avramidis, E., & Smith, B. (1999). An introduction to the major research paradigms and their methodological implications for special needs research. *Emotional and Behavioural Difficulties*, 4, 27–36.

¹¹⁸ Denzin, N. & Lincoln, Y. (2005). Introduction: the discipline and practice of qualitative research. In Denzin, N. and Lincoln, Y. (Eds.), *Handbook of Qualitative Research* (pp. 1-17). Thousand Oaks, CA: Sage.

¹¹⁹ Neuman, N.L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches*. Seventh Edition. Pearson Education Limited. Edinburgh Gate.

¹²⁰ *Verstehen* is a German word it is pronounced "fehr-SHTEH-ehn",

¹²¹ Deetz, S. (1996). Describing differences in approach to organization science: rethinking Burrell and Morgan and their legacy. *Organization Science*, 7, 191–207.

¹²² Aikenhead, G. S. (1997). Toward a First Nations cross-cultural science and technology curriculum. *Science Education*, 81(2), 217-238.

¹²³ Myers, M. D. (2009). *Qualitative research in business and management*. London: Sage. Myers, M. (1999). Investigating information systems with ethnographic research. *Communications of the AIS*, 2(4es), 1.

In the interpretivist's epistemology, the assumptions are derived from day-to-day¹²⁴ life situations where concepts are coined to assign meaning to things (what is done or what is said).

The Constructivist Epistemology

You need to differentiate between interpretivism and constructivism. Unlike interpretivists, social constructivists believe that individuals seek understanding of the world in which they live and work. Individuals construct¹²⁵ knowledge subjectively based on the meanings out of their experiences — meanings directed toward certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas.

The constructivist epistemological assumption holds that humans construct knowledge based on processing their experiences through interaction with external stimuli (Mertens, 2015:¹²⁶). Epistemologically, the evaluator needs to interact with participants¹²⁷¹²⁸ and to engage in meaningful dialogue and reflection to construct knowledge (Gramsci, 1971¹²⁹; Guba & Lincoln, 2005¹³⁰¹³¹) as individuals live in a material, social and cultural context. Thus, constructivist researchers also focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants. Researchers recognize that their own backgrounds shape their interpretation, and they position themselves in the research to acknowledge how their interpretation flows from their personal, cultural, and historical experiences.

¹²⁴ The term 'day-to-day' encapsulates exactly the routinised character which social life has as it stretches across time-space. The repetitiveness of activities, which are undertaken in like manner day after day, is the material grounding of what Giddens calls the recursive nature of social life.

¹²⁵

¹²⁶ Mertens, D.M. (2015). Philosophical Assumptions and Program Evaluation. *Spaziofilosofico*. – ISSN: 2038-2678.

¹²⁷ Epistemological constructivists believe that there can be many, equally legitimate constructions of one external reality, whereas hermeneutic constructivists share a view of knowledge as interpretation, an interpretation historically founded rather than timeless, contextually verifiable rather than universally valid, and linguistically generated and socially negotiated rather than cognitively and individually produced.

¹²⁸ Gramsci for instance in emphasising constructionism as a creation following interaction outlines his epistemological stance, which is consistent with qualitative methodologies. "Knowledge," in this view, emerges from the combined endeavours of intellect, emotion and engagement with "the people" he submits (p.418).

¹²⁹ Gramsci, A. (1971). *Selections from the Prison Notebooks* (Q. Hoare & G. Nowell Smith, Ed. And Trans.). New York: International.

¹³⁰ Denzin, N., and Lincoln, Y.S. (2005). (eds.), *Handbook of Qualitative Research Methods*, Sage, Thousand Oaks CA. pp. 303-342.

¹³¹ Guba, E., And Lincoln, Y.S. (2005), *Paradigmatic Controversies, Contradictions, and Emerging Confluences*, in N. Denzin-Y.S. Lincoln (eds.), *Handbook of Qualitative Research Methods*, Sage, Thousand Oaks CA. pp. 191-216.

The epistemology of constructivism says that reality is relative phenomenon. The term relativist according to Hugly and Sayward (1987:278) implies that there is no objectivist truth to be known but that, which is imprinted in the mental. In its most radical form, constructivists believe that there is no other reality save for what we construct with our own minds and the gestures we use to portray what we mean. It is for this reason that Guba and Lincoln assert that reality is therefore a mental construct and it is individualistic. Given this position, therefore, constructs 'do not exist outside of the persons who construct and hold them' (1989: 143¹³²). There is in essence then no single reality since multiple mental constructions exist to one phenomenon (participant and researcher co-construct understandings) (Denzin and Lincoln 2005: 24). Some of the realities may be in conflict with each other and may change from time to time (Smith, 1983; Schwandt, 1994; Oxford, 1997; Clandinin and Connelly, 2000).

Rather than assimilate a body of knowledge about one's world and environment, constructivists believe we 'construct' our actions, understandings and models based upon our interactions with our surroundings. Thus, there is some paradox in proposing a definition of constructivism in that its central tenet is that there is no external truth or knowledge outside of a knower's experience. In all the sciences of human action, account must be taken of processes and phenomena and things that are constructed which are devoid of subjective meaning, in the role of stimuli, results, favouring or hindering circumstances. To be devoid of meaning is not identical with being lifeless or non-human; every artifact, such as for example a machine, can be understood only in terms of the meaning which its production and use have had or will have for human action; a meaning which may derive from a relation to exceedingly various purposes. Without reference to this meaning such an object remains wholly unintelligible. That which is intelligible or understandable about it is thus its relation to human action in the role either of means or of ends; a relation of which the actor or actors can be said to have been aware and to which their action has been oriented. Only in terms of such categories is it possible to "understand" objects of this kind. On the other hand, processes or conditions of human action are devoid of meaning insofar as they cannot be related to an intended purpose. That is to say they are devoid of meaning if they cannot be related to action in the role of means or ends but constitute only the stimulus, the favouring or hindering circumstances.

In terms of human action, we can distinguish two approaches of constructivism: the first may be called individual constructivism. It assumes that an individual attempts to reach coherence among the different pieces of knowledge. Constructions that are inconsistent with the bulk of other knowledge that the individual has will tend to be rejected. Constructions that succeed in integrating previously incoherent pieces of knowledge will be maintained. The second, to be called social constructivism. Social constructivism is a sociological theory of knowledge that focuses on how individuals come to construct and apply knowledge in socially mediated contexts. Social constructivists believe that

¹³² Guba, E. G. and Lincoln, Y. S. (1989). Fourth generation evaluation. Newbury Park: Sage.

individuals seek understanding of the world in which they live and work. Individuals develop subjective meanings of their experiences in a lifeworld and these meanings are actually directed toward certain objects, things, or even things that these people do. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas.

Perceptions, feelings, motives, values, or experiences of the social world by people in their everyday lives are taken as the subject matter of social science. This to them is what counts as reality. The topic for social scientists must be the everyday constructions or understandings or models people use to account for their actions and other people's actions. Social life is not just to be described through adaptive construction in a social setting as social actors interact. It therefore follows that what is socially constructed by an actor or actors, direct how reality is perceived and structured; reality therefore varies with different situations in a setting. 'Truth' or 'reality' in this respect will be accorded only to those constructions on which most people of a social group agree (Smith, 1983; Polkinghorne, 1992; Guba and Lincoln, 1994; Lincoln and Guba, 2000). Often these subjective meanings are negotiated socially and historically. They are not simply imprinted on individuals but are formed through interaction with others (hence social constructivism) and through historical and cultural norms that operate in individuals' lives.

Constructivism is an epistemology, a meta theory, and a theory of knowledge of which human knowledge is centred on the active participation of the subject in construing reality, rather than on reflecting or representing reality. The constructivist epistemology asserts that the only tools available to a knower are the senses. It is only through seeing, hearing, touching, smelling, and tasting that an individual interacts with the environment. With these messages from the senses the individual builds a picture of the world. Human knowledge is a construction built from the cognitive processes (which mainly operate out of awareness) and embodied interactions with the world of material objects, others and the self. This construction or modelling cannot exist independent of perceptions, feelings, motives, values, or experiences of it. As such, there can be no single, static, universal reality, as direct realists assume (Smith, 1983; Polkinghorne, 1992; Schwandt, 1994; Potter, 1996; Oxford 1997; Clandinin and Connelly, 2000; Lincoln and Guba, 2000).

Constructivists believe that there is no reality save for what we construct with our own senses. We can distinguish two approaches trying to avoid such an 'absolute relativism'. The first may be called individual constructivism. It assumes that an individual attempts to reach coherence among the different pieces of knowledge. Constructions that are inconsistent with the bulk of other knowledge that the individual has will tend to be rejected. Constructions that succeed in integrating previously incoherent pieces of knowledge will be maintained. The second, to be called social constructivism, sees consensus between different respondents as the ultimate criterion to judge knowledge. 'Truth' or 'reality' will be accorded only to those constructions on which most people of a social group agree.

Human Nature Assumptions

This set you and I are going to discuss about the human nature of man. What you and I need to appreciate from the beginning is that humans have the freedom as well as limitations to choose meaning (McArthur: 1958) through their interactive experiences with the world within them and the world outside of them. The human nature assumptions specify how free or restricted (Flood¹³³ and Jackson, 1991; Bloomfield¹³⁴, 1982; Frankfort-Nachmias¹³⁵ and Nachmias, 1992; Morrow and Brown, 1994¹³⁶) humans act in response to interactive experiences with the world within them and the world outside. The concept of human nature) actually is a set of assumptions, attitudes, and beliefs in research. The assumptions answer the question how does person who is conducting the inquiry interact with the environment? It also asks how does the person who is being investigated interact with the environment. It also asks, to what extent are the values and interests of the researcher and the person being investigated being integrated in the inquiry? Following from all this, you will realise that there are two human nature assumptions which are evident and you and I discuss each one below.

The first one relates to determinism. This is closely linked to the positive epistemology and realist ontology. The deterministic view has people responding in an almost mechanistic way. The researcher is constrained by things in the environment in the process of interaction (Burrell and Morgan, 1979; Morrow and Brown, 1994). Social structures like laws, rules, and norms are distinctive, stable arrangements whereby human beings in a society ought to operate in. Theories, theoretical frameworks and conceptual frameworks act as social structures to limit humans.

In relation to social research, determinism therefore demands that the researcher links these philosophical assumptions when developing methods. For instance the researcher is expected to set off investigating phenomena relying as much as possible on conceptual frameworks and theories as determinants of what to investigate. Therefore, what you and I see in the descriptions above examples is that both the researcher and the researcher lack the ability to make choices.

The second one relates to voluntarism. This as well as is closely linked to the humanist epistemology and relativist or nominalist ontology. The voluntarist view has people

¹³³ Flood RL, Jackson MC. 1991. Creative Problem Solving: Total Systems Intervention. John Wiley & Sons: Chichester.

¹³⁴ Bloomfield B. 1982. Cosmology, knowledge and social structure: the case of Forrester and system dynamics. *Journal of Applied Systems Analysis* 9: 3–15.

¹³⁵ Frankfort-Nachmias C, Nachmias D. 1992. *Research Methods in the Social Sciences* (4th edn). Edward Arnold: London.

¹³⁶ Morrow RA, Brown DD. 1994. *Critical Theory and Methodology*. Sage: London.

responding in an almost liberal way. The researcher is free in the environment during the process of interaction and so are the respondents. Social structures like laws, rules, and norms are not distinctive. Theories, theoretical frameworks and conceptual frameworks are not considered as limiters to humans. The voluntarist approach as such ascribes a much more creative, free will approach to humans, having them act as agents able to construct their environment by their thoughts and actions.

In relation to social research, voluntarism therefore demands that the researcher links these philosophical assumptions when developing methods. For instance, the researcher is free to set off investigating phenomena without relying on conceptual frameworks and not even theories in the quest of investigation. Therefore, what you and I see in these descriptions is that both the researcher and the researcher are free to make choices

Methodological assumptions

Finally, you and I are going to look at two different forms of 'methodology'. These methodological assumptions indicate the processes by which phenomena are investigated and knowledge obtained. Just like all other assumptions, methodology is also discussed pair wise.

Nomothetic Methodology

The nomothetic methodology promotes the search for universal laws by a process of identifying tangible concepts and then constructing tests which allow the concepts to be measured. This methodology sits very well with the positivist epistemology, the realist ontology and determinism. You will observe that the nomothetic approach adopts techniques and methods characteristics of natural sciences. It subjects all data to the crucible and rigors of scientific examination, which has as its focus the process of formulation and testing of hypotheses. The major tool of analysis in the nomothetic research is the use of quantitative techniques. The specific instruments used are surveys, questionnaires, personality tests and other standardized instruments. Nomothetic approach focuses on an examination of regularities and relationships to universal laws (Putnam: 1983:41¹³⁷) its salient element is quantitative research.

A nomothetic approach is generally understood to be one where research seeks to identify what is true or generalizable for groups or populations (Grice et al., 2006¹³⁸). In nomothetic research, the goal is to identify general laws, to find what holds true not just for the individual, but also for people in general. As a corollary the nomothetic method "emphasizes quantitative analysis of a few variables across large samples" (Larsson,

¹³⁷ Putnam, L. (1983). The interpretative perspective: An alternative to functionalism. in L. Putnam, and M. Pacanowsky (Eds.), *Communication and organizations*, Beverly Hills, CA: Sage.

¹³⁸ Grice, J. W., Jackson, B. J., & McDaniel, B. L. (2006). Bridging the Idiographic-Nomothetic Divide: A Follow-Up Study. *Journal of Personality*, 74, 1191-1218.

1993: 1515¹³⁹). It is important to pinpoint that the application of this approach requires the researcher to be at-home with figure and statistical methods of analysis. This is a more popular research assumption for quantitative researchers. Researchers use experimental as well as quasi experimental methods and quantitative measures to test hypothetical generalizations (Ayer, 1996; ¹⁴⁰Hoepfl, 1997), and they also emphasize the measurement and analysis of causal relationships between variables (Denzin and Lincoln, 1998).

Ideographic Methodology

On the other hand, the ideographic research methods which centers on reasons why individuals construct and interpret their world in a particular way Putnam¹⁴¹, 1983:41), by this approach, it is considered that the social world can only be understood by obtaining firsthand knowledge of the subject under investigation. An ideographic methodology is concerned with accessing the unique understanding that an individual uses to interpret the world around them. Its epistemology is humanist while its ontology is nominalism, and similarly its human nature is that of voluntarism. This approach according to Ahiauzu (2010¹⁴²) focuses upon naturally – occurring situations – the encounters that people have in the normal course of events. The salient element in ideographic research is the qualitative research process. The goal of a qualitative investigation basically is to understand the complex world of human experience and behavior from the point – of – view of those involved in the situation of interest. Therefore, the investigator is expected not to have an a priori, well – delineated conceptualization of the phenomenon, rather, this conceptualization is to emerge from the interaction between participants and investigator. Flexibility in design, data collection, and analysis of research is strongly recommended to gain “deep” understanding and valid representation of the participants’ viewpoints (Sidani & Sechrest: 1996¹⁴³).

Ideographic methodology thus places considerable stress upon getting close to one's subject and exploring its detailed background and life history. The ideographic approach emphasises the analysis of the subjective accounts which one generates by 'getting

¹³⁹ Larsson, R. (1993). Case survey methodology: Quantitative analysis of patterns across case studies. *Academy of Management Journal*, 36, 1515-1546.

¹⁴⁰ Ayer, A. J. (1996) *Logical Positivism*. New York. Free Press.

¹⁴¹ Putnam, L. (1983). The interpretative perspective: An alternative to functionalism. in L. Putnam, and M. Pacanowsky (Eds.), *Communication and organizations*, Beverly Hills, CA: Sage

¹⁴² Ahiauzu A. I. (2010): *Advanced Social Research Methods*, lecture notes for PhD students in the Faculty of Management Sciences, Rivers State University of Science and Technology, Port Harcourt (20) *Man and the search for reality: the social science dimension* by Justin Mgbечи Odinioha Gabriel. Available from:

https://www.researchgate.net/publication/262918334_Man_and_the_search_for_reality_the_social_science_dimension_by_Justin_Mgbечи_Odinioha_Gabriel [accessed Mar 07 2018].

¹⁴³ Sidani, S., & Sechrest, L. (1996). *Analysis and use of qualitative data*. NIDA Research Monograph, No. 166. Retrieved May 12, 2003, from http://www.drugabuse.gov/pdf/monographs/monograph166/292_309.pdf.

inside' situations and involving oneself in the everyday flow of life. The ideographic method stresses the importance of letting one's subject unfold its nature and characteristics during the process of investigation (Burrell and Morgan, 1979:6).

The goal of ideographic methodology is to identify particular experiences. As a corollary the ideographic method "emphasizes qualitative analysis of a few units of analysis. It is important to pinpoint that the application of this approach requires the researcher to be at-home with qualitative methods of analysis. Researchers use observational studies as well as textual analysis to bring out meanings and lived experiences.

Idiographic research uses fewer cases, and looks at them more in depth using flexible, long term and detailed procedures. Freud within the psychodynamic perspective and Rogers within the humanistic perspective are in favour of the idiographic approach. The idiographic methodology takes a subjective emic view of the world and regards experience as a basis for knowledge. This methodology is characterized in three domains as follows:

The research is done in a natural setting. The researcher as such cannot adjust, control, change, or influence the setting or environment.

The event to be investigated must be natural. If you were interested in memory for people speaking in tongues at church, and you wanted to use naturalistic observation, you would basically have to wait until the fellowship and perhaps in a Pentecostal church. Staging a fake fellowship, however it may mimic a natural event violates this criterion.

The observed behaviour must be natural. This requires that the researcher be unnoticed or if noticed may not be a full participant. For example, if you're measuring walking speed, you have to make sure you are sneaky about it; if anyone notices you with a stopwatch and a notepad, their behaviour will likely change as a results, thereby violating this criterion.

These three specific criteria for a naturalistic inquiry must not be violated, if it happens, the research is no longer naturalistic observation.

However, the idiographic approach just like its counterpart is not without some limitations. For example, one problem with a nomothetic approach is the over dependence on questionnaire gathered data. Over the years, questionnaires used in organizationally based studies have been heavily criticized in terms of design, usability (Van Maanen, et al., 1982), and, especially, reliability and validity (Schriesheim and Kerr, 1977; Schriesheim, et al., 1979).

Therefore, what you and I can now see is that different modes of research questions allow us to understand different phenomena and for different reasons (Deetz, 1996). The methodology chosen depends on what one is trying to do rather than a commitment to a particular paradigm (Cavaye, 1996). Thus, the methodology employed must match the particular phenomenon of interest as guided by the philosophical assumptions. Different phenomena may require the use of different methods befitting a particular ontology, epistemology and human nature orientations. By focusing on the phenomenon under examination, researchers can select appropriate methods for their enquiries (Falconer and Mackay, 1999).

We have come to the end of the unit and now attend to the following.

Activity 5



- 1) What are the roles of philosophical assumptions in research?
- 2) According to Burrell and Morgan, what are the pairs of viewpoints called within the ontological, epistemological, human nature and methodological schema?
- 3) Describe how ontological, epistemological, human nature assumptions shape research in selecting the data collection methods in an inquiry.

Summary 5



Social research is concerned with exploring, describing, and explaining social phenomena involving human behaviour and the best way to handle and structure every aspect of an inquiry is to apply philosophy. Philosophical ideas influence the practice of research and we need to identify them carefully for a proper delineation of research pathway. It is important for research practitioners to make explicit the larger philosophical ideas they espouse to help them explain why they chose qualitative, quantitative or mixed methods approaches for their research.

6.0 Paradigms

6.0 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Define what a paradigm is
- 2) Describe what accounts for a paradigm shift
- 3) Discuss the importance of locating a paradigm in research

Here is the point of reflection before you and I look at this sub unit



Reflection

- 1) Have you ever heard of debates surrounding the contradictions between a perspective and a paradigm? If you have, what have people stated about this debate especially about similarities?
- 2) Are you in a position to attempt to define what a paradigm is? Try and see how close you could be to its definition?
- 3) You may have to pose for a while, reflect and write down what you think about these two questions.

Introduction



The concepts paradigm and perspectives have added a lot of confusion to scholastic debate in social science research. However, it must be understood from the outset that paradigms and perspectives are not theories. In social science, there are several predominant paradigms, each have their own unique features.

We now turn to examine the concept paradigm. You and I have just seen the development of ideas from positivism to post positivism. This is what Kuhn could

consider as a paradigm shift. I hope that this will not create confusion. However, you and I must understand the concept from the outset. First paradigms are not theories. Second paradigms are not methods.

In order to make clarifications of what paradigms are, you and I have to appreciate some brief history. There is a history of philosophical paradigmatic¹⁴⁴ discourse, which poses the question, what is a paradigm and why should researchers appreciate a paradigm? Perhaps this is the time to settle the confusion. We are going to examine in brief the etymology and conceptual definition of a paradigm. The term paradigm originated from the Greek word *paradeigma* which means the universally recognized scientific achievements that for a time (not at all times) provide model problems and solutions to a community of practitioners. When we read literature about paradigms, we note that the concept was popularised by Thomas Kuhn an American physicist and philosopher to explain the manner in which science operates and develops through time.

You may wish to know what he said more than half a century ago. According to Kuhn, the term paradigm refers to a research culture with a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research (Kuhn, 1970; 1977¹⁴⁵). Chalmers (1982) defines a paradigm as "made up of the general theoretical assumptions and laws, and techniques for their application that the members of a particular scientific community adopt" (p. 90). Chalmers (1982: 91) further points out that a paradigm has five components:

- a) It explicitly states its laws and theoretical assumptions.
- b) It has a standard way of applying the fundamental laws to a variety of situations.
- c) It has instrumentation and instrumental techniques that bring the laws of the paradigm to bear on the real world.
- d) It has general metaphysical principles that guide work within the paradigm.
- e) It has general methodological prescriptions about how to conduct work within the paradigm.

Guba and Lincoln, 1994: 105; 107) posit a paradigm as a set of basic beliefs (or metaphysics) that deals with ultimate or first principles. It represents a worldview that defines, for its holder, the nature of the 'world', the individual's place in it, and the range of possible relations to that world and its parts. A paradigm is considered to be a pattern, structure and framework or system of scientific and academic ideas, values, and

¹⁴⁴ Burrell and Morgan (1979:23) use the term as a "commonality of perspective which binds the work of a group of theorists together" 'Paradigms are philosophical systems, which are sets of basic beliefs, accepted on faith, that provide frameworks for the entire research process (Creswell, 1994, 2003; Guba, 1990; Guba and Lincoln, 1994; Schwandt, 1989).

¹⁴⁵ Kuhn, T. (1977). *The Essential Tension: Selected Studies in Scientific Tradition and Change*. Chicago: University of Chicago Press.

assumptions (Olsen et al., 1992:16¹⁴⁶). In the words of Robert Friedrichs (1970:55), a scientific paradigm is "the intellectual image a discipline has of its subject matter." This intellectual perspective defines what constitutes "normal science" within a particular scientific community at a given time and underlies most of the theorizing and research done by its practitioners. It includes explicit and implicit assumptions about the nature of the phenomena being studied, prevailing beliefs and theories about the structure and functioning of those phenomena, formal and informal rules concerning the manner in which they are to be studied, and standards for evaluating the adequacy and validity of all scientific endeavours within that scientific community. George Ritzer (1975:7) describes a paradigm as:

A fundamental image of the subject matter within a science. It serves to define what should be studied, what questions should be asked, how they should be asked, and what rules should be followed in interpreting the answers obtained. The paradigm is the broadest unit of consensus within a science and serves to differentiate one scientific community (or sub community) from another.

From the various definitions, we take a paradigm in essence as a set of accepted rules or conventions within any field for solving one or more puzzles – in social life where a puzzle is a scientific question such that it is possible to find a solution. In the quest of searching for a solution, the researcher will then select an appropriate paradigm. This paradigm has; its own distinctive language and concepts (arcane lore) (Huber & Morreale, 2002¹⁴⁷), ways of practising and thinking (Entwistle, 2005¹⁴⁸) to interpret social life. For instance in Kuhn's book "The Structure of Scientific Revolutions", argues that the process of observation and evaluation in science take place within a paradigm. He considered a paradigm as what the members of a specific community of scientists share, and, conversely, a scientific community consists of men who share a paradigm'. On this account, science or research can be done only as a part of what a particular community espouses (Kuhn, 1970).

The thinking behind paradigms as argued by Kuhn then stemmed from the facts that, in the social world, researchers do not ask the same questions about social reality and they do not justify reality in the same way and further they do not go about doing things in the same way. Society is progressive and tends to have different and interesting questions that do not have an answer at any particular stage of progress (Davis, 1994¹⁴⁹).

¹⁴⁶ Olsen, M. E., Lodwick, D. G., Dunlap, R. E. (1992). Viewing the World Ecologically Boulder Colorado Westview.

¹⁴⁷ Huber, M. T., & Morreale, S. P. (2002). Disciplinary styles in the scholarship of teaching and learning: Exploring common ground. Merrifield, VA: AAHE.

¹⁴⁸ Entwistle, N. (2005). Learning outcomes and ways of thinking across contrasting disciplines and settings in higher education. *The Curriculum Journal*, 16(1), 67–82.

¹⁴⁹ Davis, J. (1994) What's wrong with sociology?, *Sociological Forum*, 9, 2, 179-197.

Toulmin (1961:¹⁵⁰1972¹⁵¹) and Kuhn (1970¹⁵²; 1977¹⁵³) who are historical relativists have argued in favour of a shift in the commitment by a community of scholars to the way of viewing science and “doing science” as society progresses permitting periodic revolutions called paradigm shifts. A scientific revolution occurs, according to Kuhn, when scientists encounter anomalies that cannot be explained by the universally accepted paradigm within which scientific progress has thereto been made (Kuhn, 1970¹⁵⁴).

What we see from these paradigm protagonists is that that scientific knowledge is historically in a state of flux and socially conditioned, and as such, scientific knowledge or what is held as absolutely true is not as such at all times. Truth or reality is relative in character and as such, it requires new ‘paradigms’ to account for phenomena. Kuhn popularises this change in his book to demonstrate a paradigm shift.

An example of a paradigm shift we are presenting now is how the earlier thinking in science was dominated by quantitative research and this thought was later criticised and led to the popularisation of qualitative research. The following is description of what I am calling “The Shift from the quantitative Positivist to the qualitative post positivist paradigm” is based on the key elements for paradigm change premises described by Kuhn (1996). Kuhn posited that for a paradigm to shift their ought to be:

- 1) A clear characterization of an existing, “dominant paradigm,”
- 2) An increasing sense of frustration with the problems in the existing paradigm,
- 3) A clear characterization of a new paradigm, and
- 4) Agreement that the new paradigm resolves the problems in the existing paradigm.

In order for us to understand paradigms, we shall examine three scientific revolutions. We begin by looking at the transition from quantitative research to qualitative research and then to mixed methods research.

Qualitative Research is at least as old as Quantitative Research, and it has always maintained a dominant position in some fields such as social anthropology. However, qualitative research began to gain momentum in the late 1970s, there was no commonly agreed upon label for the dominant paradigm that characterized social science research methodology up to that point. However, researchers became frustrated with the failures of quantitative methods to elicit meanings and motives that were behind social action and particular constructs. Researchers who were working within the long-standing

¹⁵⁰ Toulmin, S. (1972). Human Understanding, Vol. I, Princeton, NJ: Princeton University Press.

¹⁵¹ Toulmin, S. (1961). Foresight and Understanding, London: Hutchinson.

¹⁵² Kuhn, T. S. (1970). The Structure of Scientific Revolutions (2nd ed.), Chicago, IL: University of Chicago Press.

¹⁵³ Kuhn, T. S. (1977). Second Thoughts on Paradigms, in F. Suppe (Ed.). The Structure of Scientific Theories (2nd ed.), Urbana, IL: University of Illinois Press.

¹⁵⁴ Kuhn, T. S. (1970). The Structure of Scientific Revolutions. International Encyclopaedia of Unified Science. The University Of Chicago Press, Chicago.

paradigm (i.e., a period of “normal quantitative science”) were often only implicitly aware of the beliefs and practices that guide their work – probability sampling, survey questioners and multiple regression so to say. In following up this unfortunate position, qualitative research emerged.

This is not the only example of a paradigm shift we could consider. In the last four decades, we have also seen the emergence of a controversial paradigm called mixed methods research. The same process embracing paradigm shifts has enveloped theories and methods. Below, we examine two paradigm shifts.

The second shift you may have to appreciate is related Grounded theory methodology (GTM). Barney Glaser and Anselm Strauss first developed this in the 1960s. Their GTM thinking was rooted in the Chicago school of symbolic interactionism, which achieved prominence in the 1920s and 1930s. The duo were first ambivalent to the early teachings and emphasis of quantitative analytic techniques as advocated by researchers at the Columbia school of multivariate analysis (LaRossa, 2005:¹⁵⁵839). The duo later developed a paradigm to deal with analysing qualitative data and developing a theory that was grounded in data.

In a related manner, Catherine Charmaz modified Barney G. Glaser and Anselm L. Strauss’s (1967) original conception of grounded theory which assumed a social constructionist approach to the empirical world. She argues in support of her modified grounded theory approach by positing that “like other social scientists of the time, they adopted a more limited form of social constructionism than what I advocate here”. She further adds “Glaser and Strauss did not attend to how they affected the research process, produced the data, represented research participants, and positioned their analyses.”¹⁵⁶ Their research reports emphasized generality, not relativity, and objectivity, not reflexivity. This lack of attention led to a new paradigm which is a modified grounded theory.

The third shift relates to theories. We can then look at an example of a paradigm shift. David Harker in his article “Two arguments for scientific direct realism unified” argues that verified novel predictions are often considered the most compelling examples for the claim that science couldn’t be that successful if our theories weren’t at least approximately true. He presents his thesis as follows “Consider Fresnel’s theory’s verified prediction that when a narrow beam of light is directed towards an opaque disc or sphere a white spot will appear at the centre of the shadow that’s created. Intuitively it can seem just too incredible that Fresnel’s theory should correctly anticipate the unexpected phenomenon, yet the theory could not be at least approximately true”. He sums up his

¹⁵⁵ LaRossa, R. (2005) Grounded Theory Methods and Qualitative Family Research. *Journal of Marriage and Family* 67 : 837–857.

¹⁵⁶ They did claim that their method was phenomenological (Glaser & Strauss, 1967). Social constructionist approaches had a long and varied history but moved to the forefront of qualitative sociology in the late 1960s.

antithesis or argument that however, even theories that enjoy novel success are sometimes replaced, and sometimes replaced by theories with radically distinctive ontologies (Hacker, 2010:) ¹⁵⁷

We have come to the end of the unit and now attend to the following.

Activity 6



- 1) Are you now in a position to write short notes on what Kuhn said about what makes scientific revolutions or paradigm shifts?
- 2) What do you see to be roles of paradigms in research?
- 3) Could you describe what made the emergence of qualitative research from a paradigmatic point of view?

Summary 6



We have come to understand that scientific knowledge is historically in a state of flux and socially conditioned. Truth or reality is relative in character and as such, it requires new 'paradigms' to account for phenomena. Kuhn posited four essential features of a paradigm shift. The transformations for instance which have taken place where research has progressed from the dominant quantitative paradigm to the mixed paradigm as an example of a paradigm shift.

¹⁵⁷ Harker, D. (2010). Studies in History and Philosophy of Science 41: 192–202

7.0 Unit Seven – Research Topic and Title

7.0 Unit Seven Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Distinguish between a research topic and a research title.
- 2) Identify the challenges of structuring a research topic and research title.
- 3) Describe the role of a research topic and research title in a research project.
- 4) Demonstrate understanding of the essential features and variations of qualitative and quantitative research titles.

Here is the point of reflection before you and I look at this sub unit



Reflection

- 1) Do you see it possible and reasonable to start a research proposal without a research topic?
- 2) Do you see it possible and reasonable to start a research proposal without a research title?
- 3) I do think that a research title should be cast in iron and steel until the time of my defense. What is your take on this position?



Unlike seasoned researchers, students of research tend to face numerous challenges in developing ideas around what they intend to study. They face challenges in developing a topic and a research title. Before going any further, let us look at these challenges.

Undergraduate as well as post graduate students have numerous challenges in starting off developing their research project. You will need to take note of the following challenges. Students tend to:

- 1) Read very little around the subject they want to study even though the subject under inquiry stems from personal or shared experiences. They also strive for what is new and this is a good thing. However, they do not know that it is new. The question is how do you know if what you intend to do is new? One answer is to go back and read the entire history of the literature in your particular area. This is a tempting option as you can surely convince yourself and your supervisor that you are working hard.
- 2) Confine to themselves and do not want to share their ideas with colleagues or other experts. One of the pertinent steps should be to talk to someone actually working in the area or at least reasonably familiar with it to find out if someone has already answered the question you are pondering (your supervisor if helpful is hopefully a good starting point). I suggest that you look at recent surveys of the literature or recent working papers directly on the topic as coming close to providing a "sufficient statistic" for what has been done before in the area. This can be extremely useful, but you should at least be aware that even serious academic work often contains "spin" that may tend to understate the accomplishments of older literatures relative to recent (especially those that the author has contributed to).
- 3) Be undecided on what they want to study. They hover from one topic to another or one title to another. One way to overcome this is to read research article titles and see what the trade is like and you can work round these challenges.
- 4) Look for the right topic. First, there is no "Right Topic." What is hot today may be ice cold by the time that you go on the job market. You don't want the nineteenth best paper of the year on a hot topic.

Defining and developing research topics and research titles

Now that we know what may delay the progress in your research project, let us define these two concepts and understand how they are developed.

Research Topic

A research topic is a subject area of inquiry at a rather general level that serves as the subject of a research paper. A topic helps you to formulate an argument of your research proposal. You will not be surprised to see that your own research topics could come from day to day experiences or from reading around the literature and something interesting just pops up.

When choosing your topic, you should identify the broad area of study and make a list of all possible topics. You may also have an idea of what you want to do, but I suggest that you investigate all possibilities before you decide. You should give yourself plenty of options and then select the one that works best for you. Your research topic should be something that you are particularly interested in. If you pursue a topic that you know well, you have already completed half of your research. Take time to read over some of the tips outlined below and you will be on the fast track to having your proposal approved. You may have to consider the following:

- 1) Do some brainstorming as a method of getting a large number of ideas relating to a specific area of interest, keeping in mind the requirements for both your dissertation or thesis proposal and the rest of the chapters.
- 2) A strong research topic is a focused topic. You should have a clear focused and a worthwhile problem and determine if the scope of the research is appropriate to the degree and does the topic have the potential to make an original contribution.
- 3) You may have to start off with an idea of a clear question or problem that can be explored and make a significant impact on the knowledge in your particular discipline.
- 4) Ask yourself why do I want to study this topic?
- 5) Ask yourself if your topic is manageable? You should ensure that your topic is not too large, nor too small.
- 6) The next question is: Am I qualified to research this topic and does the University have the necessary facilities? There are several aspects to this question. First, is there anyone in the School/Department with sufficient expertise to supervise your project and does the library have sufficient resources? Usually Universities ask applicants to submit a research proposal addressing a topical issue. This becomes the basis of admission and allocation of a supervisor. Some Universities may not admit you to pursue a masters or PHD dissertation or thesis if there is no one in the department to offer you supervision.
- 7) Ask yourself if this topic is feasible? You will have to determine whether or not the topic you are proposing is manageable within the time-frame. Your supervisor will be able to advise you on this.
- 8) Listen to ideas – it is your choice if you use them or not. It is quite likely that the title of the research will change over the time, particularly in the final stages before submission of the thesis/dissertation.

It is always a good idea to generate several possible research topics and then choose the best one.

Now let us look at the development of the topic. Many students of research procrastinate on a research topic and this is one of the many challenges they face. However, it is normal however; this should not take long. Your research topic should be something that you are particularly interested in. If you pursue a topic that you know well, you have already completed half of your research problem. I suggest that your topic is restricted to between 30 to 50 words only.

Here is an example of a topic.

"Threats to internal security in Zambia has been restricted to politicking. Financial crimes like corporate money laundering coupled with corruption in high offices. While this is the case, the effects these financial crimes on the economy are yet to be established."

You could see that the topic of a paper is the issue it deals with. This is a topic on corporate money laundering coupled with corruption.

Research Title

You and I have just looked at the research topic. Now you and I shall examine the title. A title in turn has a definite stand drawing from the research topic that the researcher considers to pursue. The research title is structured around key concepts to show how they are related in expressing an argument that has to be researched. However, remember that you need to be flexible with the research title as it may undergo several revisions before you even defend or even during the defence. One other thing you need to know is that research titles have been changed in the viva and this is normal. Your topic may even change during review by the ethics committee. However, if your research topic changes after ethical approval, it is prudent to make a request for an amendment of your research topic with your department or school as the case may be.

Thus, within the topical area of "corporate money laundering coupled with corruption," presented above, some workable topics might be: 'the economic effects of corporate money laundering perpetrated by people in high offices'; Determinants of Corporate money laundering coupled Among Occupants of High Offices". You will notice that these topics take up considerably words around "corporate money laundering." You will notice that a research topic is definite, and definiteness means spelling something out. You and I have seen that a research title is in essence a definite area of a study. When developing a research title you need to be mindful of the following critical issues.

Geographic coverage - this refers to a study area, it is a place where the research is conducted. The geographic coverage covers the boundary and other things, which constitute the surroundings. This means that you may be expected to include this in your research title. There are no hard and fast rules regarding this aspect.

Population understudy -it is of great importance for the topic to emanate from existing problems within society. That means, the topic understudy should consider the targeted population. From which the study tries to understand who is affected by existing problem.

Ethics- There are numerous ethical principles that guide researchers to conduct their studies. These ethical principles are used in order to avoid conflicts and consequences towards the study population or the research setting. When developing a research topic, you will be expected to adhere to these principles as failure might make your proposal fail to be approved by the research ethics committee. Some of the principles are confidentiality, acceptance, and disclosure of information as well as providing equal opportunities to people, fairness, courtesy, integrity as well as transparency. It may be unethical at times to show who is being studied or even the place that is being studied. It may therefore not be necessary to include the population or research setting in the research title.

Legal issues and political consideration - In some cases, certain research topics have forced researchers to adhere to the legal expectations. If the study goes beyond the boundaries, then the study is not supported within existing legal environment. For instance, a study conducted by Galileo about the solar system. The results were stunning and it was not accepted by the Roman emperors that, the earth was rotating around the sun. At the end of the day, Galileo was assassinated. The other example is about Zambia and homosexuality. The law does not prohibit studying homosexuality, however, it would not be appropriate for a researcher to embark on such a project because the moment the researcher comes across such actors; he/she has to report to the authorities. Failure to do so would imply one is abetting crime. Researchers should stand on principles and do according to the law governing communities in question (Atkinson, 2000).

Now let us look at the development of research title and its essential features.

Almost all of us, even if we do not do it consciously, do have an idea of what we want to project when we are asked to compose a research title (at least in one or two sentences). In social science research, we refer to that condensation of many ideas as a research title. It is said in some circles that the first step in designing any research study is deciding what to study and this is the title. This is not true in all circumstances. My experiences with students in universities is that the title has been varied during the defence because the research outputs do not relate at all with the originating title. As such, it may not be prudent that it is the first thing to settle. Novice researchers always want to have a definite title since this is what they see on the first page of a proposal. It is not necessary again that this should be the case.

However, if you have developed a research problem before the title, your first step, then, is to perhaps distil the assignment of a title into a specific question. For example, if your assignment is "Write a research proposal to the local school board explaining the potential benefits of using peers in validating test items before students write a test,"

turn the request into a question like "What are the potential benefits of peer reviews of test items before students write a test?" Your title may then be framed as "Benefits of peer reviews of test items before students write a test: An Exploratory Study of Seventh Graders in Lusaka"

Sometimes researchers may have a research title in mind on which they want to anchor their study. At times, they may not have the title and instead have a research problem but they have not tilted their concern. Whichever is applicable, one may begin with it and come to it later on.

Try as much as possible to be conversant with the guidelines that your university may have in terms of the essential features of a research title. If there are no guidelines, there is no cause for you to be worried at all. All we advise you is to do some brainstorming as a method of getting a large number of ideas relating to specifics from the title.

There is no real formula for identifying a meaningful title. All you do is just choose a title that captures the essence of your proposed project. The title should accurately describe the exact nature of the main element of the study. Look at the following title and you will see the meaning behind this emphasis "Determinants of Workplace Sexual Violence among Teachers" has the main element being gender based violence at the work place focusing on determinants.

The title must be informative and relevant and should capture the attention of the reader. The title should not be too long (normally not more than 15 words) but should provide as much information about the study as possible. The title should preferably not be in a question form; it must define the research clearly, and must be clear and precise.

Watch out for a weak title. How can you tell that your research title is a strong or a weak one? Essentially, a strong research title takes some sort of stand. Remember that your research title needs to show the critical or core issues on a subject. For example, if you are writing a paper for a class on sex, you might be asked to prepare a research title by your supervisor on an unpopular subject among students that you should evaluate. Here are four research titles and there are comments on each title:

"Negative and Positive Aspects of Early Sex".

The first one is a weak research title. First, it fails to take a stand. Second, the phrase "negative and positive" aspects" are vague.

"The Occurrence of Poor Sex Preventive Practices In the School Of Education"

The second one is a weak research title because it states an observation. Your reader will not be able to tell the point of the title, and will probably stop or not read your research.

"Determinants of Contradictions of Early Sex among Primary School Pupils."

This is a strong research because it takes a stand.

"Consanguine Sex in an Extended Family: A Comparative Study of American and Malaysian Families"

This is a strong research because it shows that the title is controversial. Readers will be interested in reading the rest of the research to see how you show your findings.

Essentially, a strong research title justifies discussion and this is because it is the first thing to help the reader begin to understand the nature of your work. Use it wisely! Work on your title early in the process and revisit it often as you review and write any part of your research paper. Your research title should indicate the point of the discussion. Readers need to be able to see that your paper has one main point. If your research expresses more than one idea, then you might confuse your readers about the subject of your paper. For example:

"Companies' Exploitation of the Marketing Potential of the Internet, And Web Pages. An Applied Research to Provide Solutions to both Advertising and Customer Support"

This is a weak research title because the reader cannot decide whether the paper is about marketing on the Internet or web pages. In addition, it is a very demanding study because it is looking at two independent variables (Marketing Potential of the Internet and Web Pages) and two dependent variables (Advertising and Customer Support). To revise the research title, the relationship between the two ideas needs to become clearer. One way to revise the research would be to write:

"Internet web marketing potential and its relationship to customer satisfaction"

This is a strong research because it shows that the two ideas are related. Hint: a great many clear and engaging research titles are verbose.

A strong research title is specific. A research title should show exactly what your paper will be about, and will help you keep your paper to a manageable title. For example, if you write a paper on hunger, you might say:

"Addressing Hunger An Immediate Crisis: A Case Study of Tsunami Hit Banda Aceh"

This is a strong research because it narrows the subject to a more specific and manageable title and it identifies the specific area of inquiry and the type of study.

Preparing a good title means:

...Having the most important words appearing toward the beginning of your title,

...Limiting the use of ambiguous or confusing words,

...Breaking your topic up into a title and subtitle words when you have too many words, and

...Including key words that will help researchers in the future to locate your work.

Once you have a title, it is easy to narrow it down to the things you can have a go at explaining the real problem later on with a view to answering a set of questions. The more articulate your title is, the easier it will be to present your problem. There are however numerous ways that a researcher can structure their title. One way I recommend to students is to employ a mind map. A mind map can be a helpful tool for refining a topic. When using a mind map, you divide the topic into several sub-topics. Then you divide each sub-topic into another level of sub-topics. Moreover, a mind map can reveal interesting connections between the different sub-topics.

For example, suppose you are going to write a paper on the topic of "Threats to internal security in Zambia has been restricted to politicking. Financial crimes like corporate money laundering coupled with corruption in high offices. While this is the case, the effects these financial crimes on the economy are yet to be established." Financial crimes is a topic of interest to accountants, security personnel, politicians and lawyers, among others.

The above topic is very broad such that must be narrowed. You and I could start by writing "Financial crimes" in a circle in the middle of a blank piece of paper. Then we write down different aspects of the topic in circles surrounding the main topic. To simplify our figure, we have only included three sub-topics. Can you think of any others?

'Threats to internal security

Corporate money laundering

Corruption in high offices. Effects on the economy

Let us examine some titles by covering the essentials of research titles.

Essentials of a Quantitative Research Title

A quantitative research title should have key variables and here are some examples:

- **Correlates of Company Mergers and Profit Levels:** The Role of State Policy.

A quantitative research title may have a context integrated

- Company Mergers and Threats to Sustainable Performance: **A Case of Zambia**

A quantitative research title may have a research design component:

- **A Metasynthesis** of Financial Intelligence led Project Management
- Financial Intelligence Systems and Evidence based policy formulation: a **Comparative study design** of a Third and First world Country

It may have respondents covered or a paradigm

- Correlates of Financial Abuses among **Finance Directors** in the Zambian Public Sector

The essentials of a qualitative research title are as follows:

It may just be a statement only.

- The construction of masculinity and risk-taking in Entrepreneurship among Female Tomato Traders.

It may have a context (A title in form of a statement)

- The construction of masculinity and risk-taking in Entrepreneurship among **Female Tomato Traders in the Western Cape**

It may have a research design component

- **An Ethnography** of Gendered Business Management among Small Scale Tomato Traders

It may have respondents covered or a paradigm guiding the inquiry stated.

- Strategic human resources, innovation, and entrepreneurship fit: **A mixed-methods case study** of **Human Resources Mangers** in Two Quasi Institutions.

We have come to the end of the unit and now attend to the following.

Activity 7



- 1) What are the distinctive features of a research topic and a research title?
- 2) Describe at least three challenges students face in structuring a research topic and research title.
- 3) What are the roles of a research topic and research title in a research project?
- 4) When developing a research title, there are essential features. Develop your own research title and shade at least two essential features of qualitative and quantitative research titles.

Summary 7



We have identified a number of critical challenges that students face in starting off developing their research project. These challenges may involve the research topic or research title. It is always a good idea to generate several possible research topics and then choose the best one. Always remember that research topics and titles may require meeting ethical tenets, legal issues as well as considering political factors. When developing a research title, you may have to use the following essential features.

Essentials of a quantitative research title

- A quantitative research title should have key variables
- A quantitative research title may have a context integrated
- A quantitative research title may have a research design component
- A quantitative research title may have respondents covered
- A quantitative research title may have a paradigm or type of design integrated

The essentials of a qualitative research title

- A qualitative research title may just be a statement only
- A qualitative research title may have a context
- A qualitative research title may have a research design component
- A qualitative research title may have respondents covered
- A qualitative research title may have a paradigm or type of design integrated

8.0 Unit Eight – The Research Problem

8.0 Unit Eight Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Define what a research problem is.
- 2) Describe the need as to why a research problem and the statement of the problem differentially are at the heart of the research process.
- 3) Outline the sources of a research problem
- 4) Differentiate between a research problem and a statement of the problem.
- 5) Describe the features of the six special types of statement of problems.
- 6) Describe the essential characteristics of a statement of the problem.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever thought that research is driven by a problem or a question that is vexing?
- 2) What would you say to be the sources of a research problem?
- 3) Would you say that there is a difference between a research problem and a statement of the problem?
- 4) You may have to pose for a while, reflect and write down what you think about what a statement of the problem is like and what would characterise a statement of the problem to be.



In this unit, we are going to look at the research problem and the statement of the problem. You will have to remember that formulating a research problem and the statement of the problem are the first and most important step of the research process.

A research problem is like the foundation of a building. A statement of the problem in turn is more like identifying a destination prior to beginning a journey. What we are trying to say is that if you looked at type of architecture of the building, you will notice that it will have to depend on the foundation. If the foundation is well designed and strong, you can expect the building to be strong as well.

Regarding the research problem and statement of the problem, you are expected to have a clear idea with regard to what it is that you want to find out but not what you think you must find. We are making these assertions because we want you to spend some effort to understand these two concepts.

Differences between the Research Problem and Statement of the problem

The research problem and statement of the problem are at times taken to mean the same thing by some authors and researchers. However, this is not the case. A research problem is an umbrella of the challenge the researcher is trying to address. A statement of the problem is in essence the specific detail that the researcher wants to solve. Let us examine these two concepts in some detail. We shall begin with the research problem and end with the statement of the problem.

The Research Problem

A research problem is rather long and it may include:

- a) Some background information, an introduction of the real issues,
- b) Evidence that supports the existence of the problem,
- c) Evidence of an existing trend that has led to the problem,
- d) Definitions of major concepts and terms
- e) A clear description of the setting,
- f) A clear statement that the problem that it exists and the justification for the study.

In essence, this constitutes the first chapter of a dissertation or thesis.

The need for a Research Problem

There are well renowned researchers who have argued for the need to have a well-written research problem and advocate for the need of it. Karl Popper (1972; 1979¹⁵⁸) Hicks & Turner (1999¹⁵⁹), Sekaran (2003¹⁶⁰), Creswell (2003;¹⁶¹ 2005¹⁶²); Neuman (2006);¹⁶³ and Gregor (2006¹⁶⁴) for instance, argue that the starting point of research is a problem to research. Kerlinger and Lee (2000¹⁶⁵) noted "without some sort of statement of problem, the scientist can rarely go further and expect the work to be fruitful" (p. 15). A viable research problem is usually noted at the introduction of the research manuscript to identify why the study is important (Creswell, 2005). A researcher should firstly identify a problem and formulate it, to make it amenable or susceptible to research.

Before delving into the research problem, we need to settle the difference between research problem and a statement of the problem. There is a lot of debate among researchers regarding the differences between a research problem and a statement of the problem. Some take them to be synonyms whereas others protest vehemently. In this book, we take the difference approach. A research problem is rather a detailed articulation of a concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or within existing practice or an experience that points to a need for meaningful understanding and deliberate investigation. The research problem tends to cover:

- 1) The interest or motivation to do the study, and a well written motivation will help the dissertation committee, supervisors, or readers to maintain interest over the study.
- 2) A declaration of originality if there is no replication [e.g., mentioning a knowledge void, that has been revealed by the literature review.
- 3) An indication of the central focus of the study establishing the boundaries of the real problem or difficulty (The boundaries are in fact the statement of the problem).
- 4) An explanation of the study's significance or the ethical benefits to be derived from investigating the research problem.

¹⁵⁸ Karl, P. (1979) *Objective Knowledge: An Evolutionary Approach*. Oxford University Press. Oxford.

¹⁵⁹ Hicks, TG & Mueller, JF 1996, *Standard Handbook of Consulting Engineering Practice*, 2nd edn, McGraw-Hill, New York.

¹⁶⁰ Sekaran, U 2003, *Research Methods for Business : A Skill-Building Approach*, 4th edn, John Wiley, New York.

¹⁶¹ Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

¹⁶² Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.

¹⁶³ Neuman, W.L. (2006). *Social Research Methods : Qualitative and Quantitative Approaches*, 6th edn, Pearson, Boston, MA.

¹⁶⁴ Gregor, S. (2006) The nature of theory in information systems, *MIS Quarterly* Vol 30(3), p 611-642.

¹⁶⁵ Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioural research* (4th ed.). Holt, NY: Harcourt College Publishers.

- 5) The scope or delimitation of the study. This aspect defines the boundaries of the study. In the boundaries, you can cover the discipline within which the study is situated. Some researchers include the overriding design and the setting and philosophy underpinning the study.

Generally, the research problem serves the purpose of leading the reader from a general subject area to a particular field of research. It establishes the context of the research being conducted by rendering or laying to the reader an understanding and background information about the research topic. It lays also the purpose of the work (Leedy and Ormrod, 2001)¹⁶⁶.

Sources and Considerations in Selecting Research Problem

When selecting a research problem for your study, there are a few factors, which you need to consider. The factors relate to the researcher's interests, the expertise of the researchers or the team of researchers, the type of data needed and its availability, the relevance of the study and ethics whether there are less or no harms than benefits to individuals, communities or organisations. These factors will ensure that your research process is more manageable and as a researcher, you will certainly remain motivated. Below in Table 1 are the essential consideration factors for researchers in selecting a research problem.

¹⁶⁶ Leedy P. D., & Ormrod J. E. (2001). Practical Research: Planning and Design. Merrill: Prentice Hall

Table 1: Essential considerations for researchers in selecting a research problem

| Consideration Factor | Description |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interest | <ul style="list-style-type: none">▪ This the most important criterion in selecting a research problem.▪ The whole research process is normally time consuming and a lot of hard work is needed. If you choose a topic which does not greatly interest you, it would become difficult to keep up the motivation to write. |
| Expertise | <ul style="list-style-type: none">▪ Before selecting a research problem, you need to ensure that you met certain level of expertise in the area you are proposing.▪ Make use of the facts you learned during the study and of course your research supervisors will lend a hand as well. |
| Data Availability | <ul style="list-style-type: none">▪ If your research title needs collection of information (journal, reports, proceedings) before finalising the title, you need to make sure you have these materials available and in the relevant format |
| Relevance | <ul style="list-style-type: none">▪ Always choose a topic that suits your interest and profession. Ensure that your study adds to the existing body of knowledge. Of course, this will help you to sustain interest throughout the research period. |
| Ethics | <ul style="list-style-type: none">▪ In formulating the research problem, you should consider some ethical issues as well.▪ Sometimes, during the research period, the study population might be adversely affected by some questions.▪ In ICT for instance, some scenarios might occur especially research related information security, which might concern certain authorities. Therefore, it is always good for you to identify ethics related issues during the research problem formulation itself |

Regarding the sources of the statements of the problem, this however should not be a serious problem at all because there are numerous sources of research problems and the following have been identified:

Interviewing Practitioners

The identification of research problems about particular topics can arise from formal or informal discussions with practitioners or experts who provide insight into new directions for future research and how to make research findings more relevant to practice. Discussions with experts in fields, such as, politicians, policy makers, lecturers, social workers, health care providers, lawyers, business leaders, etc., offers the chance to identify practical, “real world” problems that may be understudied or ignored within

academic circles. This approach also provides some practical knowledge which may help in the process of designing and conducting your study.

Personal Experience

Your everyday experiences can give rise to worthwhile problems for investigation. Think critically about your own experiences and/or frustrations with an issue facing society, your community, your neighbourhood, your family, or your personal life. An example may be property grabbing following the death of a spouse which may seem no to have a solution even when there is a law. Therefore, studying property grabbing can be derived, from deliberate observations in a certain culture that appears harmful to a person or group or that is out of the ordinary norms of adherence.

Professional literature (journals and textbooks)

The selection of a research problem can be derived from a thorough review of pertinent research associated with the researcher's overall area of interest. This requires both extensive reading over a range of topics for breadth of background and intensive reading on selected themes for analytical, evaluative purposes are desirable aspects of the graduate program, as well as potential sources of problems. In all scientific endeavour the identification and the solution of problems depends, in a large measure, on the work of predecessors and co-workers. The freedom and the ease with which the results of research have been published are primarily responsible for the rapid advance in the sciences. This requires so much personal discipline without which the research project would crumble at proposal stage or defence stage.

An extensive and depth review may reveal where gaps exist in understanding of a topic. Research may be conducted to: 1) fill such gaps in knowledge; 2) evaluate if the methodologies employed in prior studies can be adapted to solve other problems; or, 3) determine if a similar study could be conducted in a different subject area or applied to different study sample [i.e., different groups of people]. Also, authors of journal articles, thesis, and dissertations frequently conclude their studies by noting implications for further research; read the conclusion of pertinent studies because statements about further research can be a valuable source for identifying new problems to investigate.

Conferences and professional meetings

Through lectures, discussions, reports, and reading, adequate graduate courses include numerous suggestions concerning needed research. Stimulating contacts between professors and students outside the classroom should prove unusually profitable in the selection and the development of problems for investigation. Examples of the influence of the professor on his students or of the senior scholar on younger workers are as follows: Weber on Helmholtz, Fechner, and Lotze; Saint-Simon on Comte, and Comte on Herbert Spencer; James Mill on John Stuart Mill, Bain, and Spencer; Bain on William

James, and James on Dewey, Thorndike, and Woodworth; Wundt on Cattell, G. Stanley Hall, Judd, and Titchener; Cattell on Thorndike; Darwin on Galton, and Galton on Pearson (6, 11). It is an interesting intellectual exercise to trace a common thread through the work of several generations of scientists, as in some of the illustrations just cited. Critical papers prepared for a course or seminars frequently provide helpful leads to the graduate thesis. It is important to keep systematic notes concerning needed research; otherwise such problems may leave one's memory, never to return.

There are moments when some authority assigns research topics or gives statements of intent. It can be the school, the government, donor agencies, investors, employers, and universities as well as their faculties. If they give you a statement of intent, what you just do is do some good reading around the topic and then develop the proposal. For example, if your assignment is "Write a research proposal to the local school board explaining the potential benefits of using peers in validating test items before students write a test."

So much about the research problem. Let us examine the statement of the problem.

How to write or develop the statement of the problem

A statement of the problem is in fact a short description of a challenge and it may take a paragraph or two. The statement of the problem addresses very little of what is known – the gap and it explains why that area/issue needs to be addressed and what overall benefit may arise.

A statement of problem may stem from an uncertainty about a matter which could be challenged and requires providing useful information. It may happen that you do not have a particular statement to begin your study with. In this case, you need to establish a situation indicating a researchable statement of the problem by establishing what some researchers call a niche area. When we say "niche area", we refer to an area of expertise/focus. Many departments (and researchers) have their own niche areas which relate to a discipline of study. It therefore follows from this that you as a researcher ought to make a clear and cogent argument that a particular piece of research is important and possesses value. A statement of the problem is embedded in the research problem except that it delineates issues that the researcher desires to solve. This can be done by indicating a specific gap in knowledge or practice in previous research warranting research.

Researchers often do this by raising only an overarching question or a hypothesis, and if not an argument in form of strings of statements. Hypothesis stems from the Greek *hypotithenai*, meaning 'to put under or to suppose.' Put simply, a hypothesis is a provisional idea linked to a 'why' question whose merit requires further examination. The use of a hypothesis only or as a research question or a statement of the problem is not a common practice in social science research. However, remember that this is possible. In addition, the use of a research question to stand as a statement of the problem is

also possible. Nonetheless, these two positions may not go very well with most dissertation or thesis committees or researchers in social science in some universities. Most universities prefer the use of an argument in form of stringed statements. This is the tradition the Supershine University has adopted.

While the Supershine University has adopted this tradition, my own experience has shown that the latter type of a statement the problem is extremely difficult to sustain at proposal defence or thesis defence. This is because there is very little in terms of a framework that has been written about and particularly what the essentials are of a statement of the problem or constituents of a statement of the problem ought to be met. Again, this is because there is no agreed upon framework of a statement of the problem. I tried to demonstrate the need of a framework following my numerous presentations of passed dissertations and thesis at seminars or workshops of different statements of problems to panellists. To my surprise, each statement of the problem has been critiqued to lack merit or it has been failed.

Authors who have attempted to develop a statement of the problem that is stringed have had to follow whatever the feelings or thoughts of the dissertation committee has advised. I have also learnt the hardest way in this area and noted that books have not helped readers how to develop statements of the problem. Most of the books just offer basic and cosmetic advice about this nebulous part of a proposal in thesis or dissertation writing.

Nature of a statement of the Problem

You can take a statement of the problem as something that is not fully understood, or that you don't adequately know fully well or you just do not know how to deal with it, and therefore you want more information about it or you want to solve it. For any investigator to be successful, it is expected that the investigator articulate the statement of the problem based on the challenges faced in day-to-day life activities or practice or even a serendipitous event. The underlying problem will show whether the matters raised relevant, researchable, and significant.

A Statement of the problem could be in form of a question that is intriguing. If not it could be a string of sentences or arguments weaved to show some difficulty warranting answers. What this means is that not every study will have an explicit statement of a research problem.

A good statement of the problem is contingent on a compelling topic. The problem that you choose to explore must be important to you, your readers, and to a the larger academic and/or social community that could be impacted by the results of your study. The problem chosen must be one that motivates you to address it. A general rule of thumb in the social sciences is that a good statement of the problem is one that would generate a variety of viewpoints from a composite audience made up of reasonable people.

It is a constant complaint among examiners and panellists in departments as well as ethics review boards who evaluate proposals and dissertations as well theses that students do not pay attention to statement of problems. The following are the observed shortfalls:

- 1) The most frequent deficiency noted in them is the lack of a clear statement of the problem to define and guide the inquiry. Students tend to write vague statements of problems and often punctuated by misarticulated concepts.
- 2) Graduate students seemingly search for a problem that is not significant enough to pursue and discrete enough to handle.
- 3) Novice student researchers tend to belabour writing on many issues. They do so for nothing and end up presenting a broad array of issues and overly ambitious problems, which are not feasible or even ethically controversial, and are or overly ambitious problems.
- 4) Most of the statement of the problems contain a string of historical issues.

The need for a Statement of the Problem

There is a candid reason as to why I am emphasising all the points above. The reason is that any research endeavour that is founded on a sound statement of the problem is a problem partly solved. This is because the statements of the problem drive the study. The statement of the problem is the source of research questions, it guides the search and structuring the review of literature and it directs the methodology, results, and conclusions.

Special types of statements of problems

When you read a statement of the problem, you will discover what the researcher wants to address overall. Five special types of research problems can be identified and these are as follows:

- 1) The first one is a casuist type of research problem. With this thematic type, the researcher expresses the need to explain or understand the cause and effect of phenomena. It asks the question, why are the things this way? The underlying purpose is to use the theory as a source of explanation of the cause and effect or to document the process from cause to effect.
- 2) The second one is the relational research problem. With this thematic type, the purpose is to affirm whether or not a relationship or correlation of some sort exists between two or more variables to be investigated. The purpose is to investigate qualities/characteristics that are connected in some way. It also asks the question, why are the things this way? It tends to advance a descriptive hypothesis or hypotheses drawn from a theory or a model.

- 3) The third one is the difference research problem. With this thematic type, the researcher desires to compare phenomena. It typically asks the question "Is there a difference between two or more groups or treatments?" This is a common approach to defining a problem in experimental designs in the social sciences.
- 4) The fourth one is the descriptive research problem. With this thematic type, the purpose is to describe a situation, state, or existence of a specific phenomenon. This problem is often associated with revealing very little that is known or things that are hidden or understudied issues. It typically asks the question, "What is...or what does it do?"
- 5) The fifth one is a process, change based descriptive, or pragmatic research problem. With this thematic type, the purpose is to describe a process or mechanism of how things happen or could happen or could be slowed or quickened or stopped. This problem is often associated with revealing very little that is known or things that are hidden as to how they go about doing things. It typically asks the question, "how does it work...or how can it be changed – stopped, slowed or quickened or be stagnant?"

Generally, a statement of the problem tends to elucidate what the gap is in theory, practice or methods or methodology and knowledge and as such, the problem demands filling the elicited gap that may fall in each or some of the themes we have just discussed. The following are the essential elements of the statement of the problem researchers could work with in structuring the problem:

1. What is the problem like in terms of severity (if the magnitude of the problem is not unknown) or establishing the problem by outlining the severity of the problem when known?
2. Where is the problem (outlining spatially (place) or within a system or process)?
3. What is the permissive rate or deviation of the problem if any (For problems that have norms or standards to establish what the deviation is like from the norm)?
4. What has been done or done (poorly) or not done before to address the problem? (For problems that require a solution)? You may need to outline what the important unresolved or unknown issues are if any in this field or related to this problem.
5. What are the contradictions in the data or theories or in practice on the research topic? (This requires an elaborate literature, which shows disagreements or variations in phenomena or theory or methods).
6. What the theory says or does not say versus what you are seeing happening or not happening (This is particularly relevant for research, which is founded on testing theoretical assumptions or desiring to develop a theory). This in essence is a deductivist or abductivist approach. From a theory, the researcher can

formulate a statement of the problem or hypothesis stating the expected findings in certain empirical situations.

If phenomena you want to be studied cannot be found in the problem section, and the research questions as well cannot be linked to the statement of the problem, at least at the implicit level, then the phenomena does not belong either to the study or the statement of the problem, and as such, I suggest that you re-write it.

From the six elements as heuristics, I have a few examples of statements of problems. I suggest that you print them out and use a highlighter to tease out the essential features. This will help you to understand what we have just been discussing.

Example 1: Statement of a short statement problem based on experience and no citations.

While HIV disclosure and nondisclosure may have impacts on HIV positive clients and their sexual partners, family, and friends, very little is published in Zambia on the determinants of partner disclosure of HIV status. Although, there is an increased awareness of the impact of HIV on the family, at the moment, public health practitioners cannot employ health promotion and preventive strategies among couples and this is because there is very limited evidence that could account for (a) the rates of partner notification among expectant mothers who are living with HIV, (b) the experiences of expectant mothers in terms of how they calculate risks and benefits of disclosure to their partners, (d) the prevailing disclosure and types in the prevailing social relationships, (e) effects of disclosure of one's status. The lack of this evidence has constrained HIV prevention strategies has shown a large gap in our prevention strategies and if we do not undertake this study, we may not achieve the desired millennium development goals.

Example 2: A Short Statement problem based on reviewed literature

Here are paragraphs that I got from a journal publication by Zubia Mumtaz and Sarah Salway (2007) entitled "Gender, pregnancy and the uptake of antenatal care services in Pakistan. *Sociology of Health & Illness* Vol 29 Issue 1."

There has, however, been little systematic investigation to-date into how gender norms and values actually influence use of maternal health services in Pakistan or elsewhere in South Asia. Bhatia and Cleland's (1995) analysis of Indian data is one study that explicitly explored the relationship between measures of 'women's autonomy' and use of antenatal care services. Women's 'autonomy' was developed as a composite variable made up of measures of women's economic and financial decision-making, mobility, communication with husband on sensitive matters and involvement in important household matters. The indicator failed to emerge as a strong predictor of use of either antenatal or delivery services. Unfortunately, the combination of a number of distinct measures into a single scale makes it impossible to determine the effects of the different dimensions. Bloom et

al. (2001) explored the relationships between three aspects of women's autonomy, namely 'control over finances', 'decision-making power', 'freedom of movement' and antenatal care use in Uttar Pradesh, northern India. Only freedom of movement emerged as a significant predictor of ANC use (Bloom et al. 2001). Khan's (1999) qualitative study in Punjab, Pakistan, documented the importance of restrictions on women's mobility (as one dimension of gender norms), particularly outside their village, on their access to health services. Winkvist and Akhtar (2000) found that Punjabi women's personal childbearing patterns, particularly whether they had had sons, affected their 'statuses within their families and their access to healthcare. A larger number of studies have explored the relationships between measures of women's 'autonomy' and uptake of contraception in Pakistan (Sathar and Kazi 1997, Hakim et al. 2003). However, such analyses have not been extended to consider gendered influences on maternal healthcare use.

Example 3: A Long Statement problem based on reviewed literature

Below are unmodified paragraphs that I got from a journal publication by Sakshi Sharma on occupational stress in the armed forces which looked at an Indian army perspective from IIMB Management Review (2015) 27, 185–195. The first paragraph introduces the topic and the second paragraph is the problem. Note how the author begins by stating despite

In the context of the armed forces, some research is available on the US military (Bartone, Adler, & Vaitkus, 1998; Boehmer, Boothe, Flanders, & Barrett, 2003; Britt, Davison, Bliese, & Castro, 2004; Florkowski, 2001; Litz, Orsillo, Friedman, Ehlich, & Batres, 1997; Stetz, Castro, & Bliese, 2007). Bartone et al. (1998) studied military stressors faced by soldiers during peacekeeping missions such as isolation, ambiguity, powerlessness, boredom, and danger/threat. Active duty military personnel were found to have poor mental and physical health compared to veterans and reserve personnel in a study conducted by Boehmer et al. (2003). Britt et al. (2004) emphasised that leadership behaviours can ameliorate or buffer the stressors experienced by soldiers. Further, frequent uncontrollable conditions of peacekeeping mission under unsafe conditions were found to make the soldiers experience frustration and predicted post-traumatic stress disorder among them (Litz et al., 1997). Florkowski (2001) pointed out that suicides committed by soldiers are not incidental and are an outcome of several highly complicated processes occurring simultaneously. Stetz et al. (2007) pointed out that improved organisational support in the form of lowering occupational stressors improves the psychological wellbeing of soldiers and also helps in lowering their depressive symptoms.

Despite this body of relevant knowledge, we currently lack not only understanding about how exactly gender norms and behaviours affect women's ability or desires to use pregnancy-related healthcare services, but also what constitute meaningful measures of a woman's gendered position in the Pakistani setting. There is, in addition, little

systematic study of the broader context within which pregnancy and associated health-seeking behaviour is located in Pakistan. There are a number of critical areas yet to be established like: What the notion of risk is like during pregnancy, the decision-making processes which are involved and who has decision-making authority, how cost considerations influence the decision to use healthcare and what role notions of seclusion play in women's ability to seek healthcare in a pregnant state. The present study if not done will make it very difficult for the health department to increase the uptake of Ante Natal Care.

What you can decipher from the above examples is that, the statements of the problems are very clear. A very clear statement of the question is essential to proving that you have made an original and worthwhile contribution to knowledge. To prove the originality and value of your contribution, you may have to present your problem stems from a thorough review of the existing literature on the subject, and on closely related respondents. By making direct reference to your literature review, you tend to demonstrate that your problem or research question(s) which could be a hypothesis (a) has not been previously answered, and (b) is worth pursuing.

Example 4 A Long Statement problem based on reviewed literature

Here again is an unmodified paragraph that I got from a journal publication by, Mohamed and colleagues from the journal *Procedia Social and Behavioural Sciences* 9 (2010) 299–307. It relates to An Emic perspective of students' learning information skills and constructing knowledge in Malaysian higher education.

Although Malaysian universities have been offering information skills programs via their academic library, previous studies (Chan, 2003; Edzan & Mohd Saad, 2005; Mohd Saad & Awang Ngah, 2002) suggested these programs were directed toward students' searching, locating, accessing, evaluating, and organizing information sources, and less focused on students' analysing, synthesizing and using the gathered information. In addition, these programs seem to emphasize heavily on helping students to use computer hardware and software (Reid, 1998). In this respect while existing literature (Association of College and Research Libraries, 2000; Bundy, 2004; Joint Information Systems Committee, 2002) identified information analysis, synthesis and usage as central to students' learning information skills in higher education, actual practices in Malaysian universities may draw a different picture from their counterparts in the west.

Existing studies also suggested students' learning information skills in Malaysian higher education might be influenced by classroom and social practices of their institutions of learning. Chan (2003) found students were able to apply information skills across classroom learning if only teachers provided pathways for students to do so. Badger and Roberts (2005) revealed cultural expectation of students' social roles in Malaysia introduced a challenge for students to apply or demonstrate information skills across classroom learning. Based on the findings, more studies have been undertaken to

explore students' perspective on acquiring information skills in Malaysian higher education (e.g., Abdullah et al., 2006; Edzan, 2007). However, these studies did not focus on the joint enterprise of students' learning information skills as teachers and students engage in information skills programs. This study is intended to add to existing literature on information skills by exploring the landscape of students' learning information skills using an emic perspective of teachers and students in one Malaysian university.

You will notice from these examples that statement of problems vary in length. Ideally, I would suggest that your statement problem is just a quarter or half a page. In order to help you work with a very short statement of the problem, I wish to urge you to use the statement of the problem framework below. All you need to do is fill-in the blanks and make some modifications where there is some need.

There is a problem in _____ (e.g. organization or situation where problem is occurring). Despite _____ (describe the state or efforts to prevent or deter if this is applicable), _____ (indicate something undesirable or unexpected) is occurring or is likely to occur (provide evidence or projections and this can be cited). This problem has negatively affected _____ (victims of the problem or the community or organisation or operations or life) because. A possible cause of this problem is _____. (State it if known or yet to be established if un known and could be part of the reasons for studying it) The difficulty arising from this problem is _____. (State if the difficulty if it is personal, communal, or institutional). This is like an anchor indicating the need the research paper.) _____ . Perhaps a study which investigates (insert the key phenomena as indicated in the research title here) _____ by using _____ (indicate the paradigm/method of how one needs to resolve this problem in the research. You do this by inserting the aim of the study like; Exploration, Description, Explanation, Understanding, Prediction, Change, Evaluate, Construct, monitor, assessing impacts or evaluating impacts. I suggest you refer to table XXX in this book).

We have come to the end of the unit and now attend to the following.

Activity 8



- 1) What differences exist between a research problem and a statement of the problem?
- 2) Why do students face challenges in structuring the research problem and the statement of the problem?
- 3) Why do you think the statement of the problem is the heart of the research process?
- 4) List three sources of a research problem
- 5) Out of the six essential characterises of a statement of the problem, select three and discuss how they help in structuring the research problem.
- 6) Copy the statement of the problem framework presented at the end of this unit and develop two statement of problems. Share with colleagues to get some feedback.

Summary 8



In this unit, we have learnt that a research problem and a statement of the problem are actually different. We have come to understand that a research endeavour might best be viewed as a structure that incorporates a number of distinct but related elements including a rather long research problem and a short statement of the problem that drives the study. The research problem serves the purpose of leading the reader from a general subject area to a particular field of research. It establishes the context of the research being conducted by rendering or laying to the reader an understanding and background information about the research topic. It lays also the purpose of the work. The statement of the problem on the in particular serves as the starting point for the research and is a unifying thread that runs throughout all the elements of the research endeavour.

9.0 Unit Nine – Developing Research Questions

9.0 Unit Nine Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Explain the importance of Fronting Research Questions in a Research
- 2) Outline line the challenges which are associated with developing research questions
- 3) Discuss how researchers go about making decisions on the number of research questions.
- 4) Demonstrate understanding of structuring qualitative research questions
- 5) Demonstrate understanding of structuring quantitative research questions

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever thought about the manner research questions are structured?
- 2) Did you ever think of how researchers ask questions?
- 3) Could research questions be arranged in some form of a hierarchy, meaning that some of the research questions are superior than others?
- 4) Does it matter how questions are structured even if one has chosen a quantitative or qualitative project?
- 5) You may have to pose for a while, reflect and write down what you think about these questions for you to get started.



In this unit, we are going to discuss research questions and their nature. We are going to get started by addressing how we all ask questions. We all ask questions when things are not clear in our everyday day-to-day life and we desire specific answers.

We desire specific answers because some of the things are not obvious and we do not want to take things for granted. We ask questions succinctly because we want specific and clear answers to satisfy our curiosity. Researchers are not exempt from lack of clarity and they too ask questions. Let us look at the role of fronting research questions in a project.

The Role of Fronting Research Questions in a Research Project

We need to appreciate the role of research questions in a research project. This is because the development of the research question or a hypothesis is actually a necessary key step in producing socially relevant results.

All research is based on a central research question or a set of research questions. Research questions are viewed as a crucial early step that provides a point of orientation or focus for an investigation (Khuhn, 1970; Yin, 1999¹⁶⁷; ¹⁶⁸Maxwell, 2005; ¹⁶⁹Creswell (2007, 2009; ¹⁷⁰¹⁷¹Blaikie, 2010). These questions must be distilled from the statement of the problem.

Thomas Khuhn (1970) the supporter of research guided by research questions once posited 'effective research scarcely begins before a scientific community thinks it has acquired firm answers to questions like the following: What are the fundamental entities of which the universe is composed (addressing reality)? How do these interact with each other and with the senses (relating to reason or logic)? What questions may be legitimately asked about such entities and what techniques employed in seeking solutions (relating to methodology). In the same vein, Eugene Ionesco, the father of the

¹⁶⁷ The specification of research questions or hypotheses (i.e., what is to be studied) and research strategy (i.e., how to conduct the study) is an extremely important part of any research project (Yin, 1989:19). Research questions or hypotheses influence the strategy that is employed in order to either provide answers to the questions or verify/falsify hypotheses.

¹⁶⁸ Anthony J. Onwuegbuzie and Nancy L. Leech (2006) Linking Research Questions to Mixed Methods Data Analysis Procedures. The Qualitative Report Volume 11 Number . 474-498.

¹⁶⁹ Maxwell, J. A. (2005). Qualitative research design: An interactive approach. Applied social research methods series, v. 41. Thousand Oaks, CA: Sage Publications.

¹⁷⁰ Creswell, J. W. (2007). Qualitative inquiry & research design: Choosing among five approaches. Thousand Oaks: Sage Publications.

¹⁷¹ Creswell, J. W. (2009). Research design: Qualitative, quantitative and mixed methods approaches (3rd ed.). London: Sage Publications.

“theatre of the absurd,” once said, “It is not the answer which enlightens, but the question.”¹⁷² You will notice that based on these protagonists of research questions, we adopt them as the driver of the inquiry. A number of notable renowned writers and researchers observe that research questions have an important role in many accounts of the research process. Research questions help to control against undisciplined data collection and analysis (Blaikie, 2010; de Vaus, 2001¹⁷³; Bryman, 2007¹⁷⁴). They help the researcher determine the type of reality being sought (based on ontological assumptions and the corresponding logic – induction, deduction, abduction, retroduction and pragmatism) how the knowledge being sought will have to be justified (epistemology) and eventually the appropriate human nature and methodological assumptions.

Challenges in Structuring Research Questions¹⁷⁵

Examiners, evaluators of research proposals and ethics review boards have found numerous problems in the manner research questions have been framed. We have identified the following problem areas, which you ought to be aware of and avoid at all costs.

- 1) Researchers are being bombarded with numerous vexing problems of social life and they ask questions that are not only well thought out and which are not socially relevant. Good questions do not necessarily produce good research, but poorly conceived or constructed questions will likely create problems that affect all subsequent stages of a study.
- 2) Students and novice researchers just ask research questions uninformed by a framework or heuristic.
- 3) Students and novice researchers tend to work in the reverse order from research objectives to research questions. That is they use the incorrect principle “research questions mirror research objectives”. What they mean is that you must have an equivalent number of research questions while you maintain the same wording. The only difference is that one set are questions and the other set are objectives. It sounds very odd and not philosophical at all.
- 4) Students and novice researchers tend to ask questions in any way as long as it is a question. While we are framing research questions, we should remember that

¹⁷² www.brainyquote.com/quotes/quotes/e/eugeneione109171.htm.

¹⁷³ de Vaus, D. (2001). *Research Design in Social Research*. Thousand Oaks: Sage Publications.

¹⁷⁴ Bryman, A. (2007). The Research Question in Social Research: What is its Role? *Int. J. Social Research Methodology*. 10 (1): 5–20.

¹⁷⁵ A research question should be structured in such a manner that it is open ended or narrow particularly for studies that focus on eliciting a difference. The reasons for being narrow or specific in our research questions are that we have to ensure that specific phenomena would have to be covered or explored so that we could provide answers. On the other hand, the reasons for being open ended are that we have to ensure some breadth about issues we may not be specific and we want to elicit what is there in the world so that we could provide answers.

we do not just questions anyhow as we do in everyday life. In everyday life, we ask 'What', 'Why', 'When', 'How', 'Where', 'Who', 'Which', 'Are', 'Is' and 'Do' or 'Does' questions. Questions like these below make so much sense in lay speaking and they do not make sense to researchers.

1. Why are people drunk on a working day) (meaning why are people drunk on a working day?)
2. When does marital violence occur? (Meaning Under what conditions does marital variance occur?)
3. Who are the victims of marital violence? (Meaning what are the characteristics of victims of marital violence)
4. What are the causes of spouses to be violent (Meaning why spouses are violent?)
5. Is marital violence common in marriages? (meaning to what extent is marital violence common in marriages)
- 5) Is there anything we can do to reduce the occurrence marital violence? (Meaning what can be done to reduce the incidence of marital violence?)

Let me say something about research questions and research objectives before we examine the role of each one of these in a research project and the day to day challenges novice researchers face in structuring research questions as well as the perceptions of reviewers of research grants and reviewers of protocols in ethics committees. For instance, reviewers of research grants and reviewers of protocols in ethics committees sometimes underestimate the value of research questions and attribute greater importance to objectives and research out puts of protocols or proposals (Gaberson¹⁷⁶, 1997). Whilst for instance research outputs are important, nevertheless the validity of any research and its outputs cannot hold water if it is unrelated to research questions (Giacomini¹⁷⁷ and Cook, 2000; Watson¹⁷⁸ and Girard, 2004). In other words, research outputs or findings are nothing else, rather than answers to research questions. The fuller and more coherent the answers of a study to the research question are the more plausible, integral and applicable the results will be. If the research questions are too broad, too narrow, too simplistic or not sufficiently focused, this would possibly yield trivial or insufficient results that lack direction or impact (Morrison¹⁷⁹, 2002; Bordage¹⁸⁰ and Dawson, 2003). When objectives are used for instance those that embrace concepts of purpose of research, like explore, monitor, evaluate and assess impacts, it is extremely difficult to show what gap could be been filled and what outputs could be realised. This

¹⁷⁶ Gaberson, K., (1997). What's the answer? What's the question?. AORN 66 (1) 148–151.

¹⁷⁷ Giacomini, M., Cook, D., (2000). Users' guides to the medical literature: XXIII qualitative research in health care A. Are the results of the study valid? JAMA 284 (3), 357–362.

¹⁷⁸ Watson, L.A., Girard, F.M., (2004). Establishing integrity and avoiding methodological misunderstanding. Qual. Health Res. 14 (6), 875–881.

¹⁷⁹ Morrison, J., (2002). Developing research questions in medical education: the science and the art. Med. Edu. 36 (7), 596–597.

¹⁸⁰ Bordage, G., Dawson, B., (2003). Experimental study design and grant writing in eight steps and 28 questions. Med. Edu. 37, 376–385.

is because concepts in the objectives may relate to the purpose of research or a chosen research design. We cannot say the same about research objectives as they will not lead to filling in the gaps.

While we are framing research questions, we should remember that we do not just ask questions anyhow as we do in everyday life. In everyday life, we ask questions in a variety of ways. One honest serving-man Norman Blaikie taught me in a lecture what I have come to know about how men and women go about asking questions. He showed me the asking behaviour in a lay world and the asking behaviour in the research world. Norman Blaikie listed the asking behaviour in the lay world as follows: We ask 'What' , 'Why' , 'When' , 'How' , 'Where' , Who , Which, 'Are' , 'Is' and 'Do' or 'Does' questions. From this typology of questions, I drew the following types of research questions on a topic related to marital violence in a family.

- 1) What are the effects of marital violence on children?
- 2) When does marital violence occur?
- 3) In a household, between the husband and wife, who is more violent than the other?
- 4) Who are the victims of marital violence?
- 5) How do men and women demonstrate marital violence?
- 6) Why are spouses violent?
- 7) Is marital violence commonplace?
- 8) Do husbands or wives initiate marital violence?
- 9) Is there anything we can do about marital violence?

There is a lot we can decipher from these questions. As you can see, some of these questions are realistic, others are rather vague, and it is impossible to determine exactly what could be studied. Question 1 is not specific. It could be made clear by adding a qualifier like 'economic', 'social', 'psychological' or 'learning'. Question 2 is ambiguous. It is demanding the time, if not circumstance or situation and no one knows. For questions 7 and 8 for instance, the answer could be either 'Yes' or 'No'. Some of these questions are of little use if any at all and take for instance question 10 though it appears to be compelling.

The many questions you will encounter as a researcher will often not be 'answerable' in research terms. Where there is an overarching question, the generating of answerable research questions often involves a degree of specification, or 'funnelling', whereby the overarching question is broken down into a smaller, more manageable topic or topics. Many researchers' first experience of the research process is a quest to 'solve all the problems of the world', followed by consultation with supervisors or senior researchers which results in substantial focusing of broad initial ideas.

Frequently we present students with options in an introductory research course: options for how to write research questions. These options in the course typically are geared toward helping students design studies, or how they will carry out the research.

According to Norman Blaikie, answerable' research questions are essentially of three types: They may contain a 'What', 'Why' and 'How' component structurally. Questions that begin with when, which and who could be reduced to "What" types. Questions of what types that tend to show direction or association or demand establishing cause and effect could be reduced to a Why type (Blaikie, 2010). For example, a question like "What are the causes of wife battery among men" could be framed like "Why do men batter their wives? A question like "What process could be used to solve wife battery?" could be framed like "How can we address wife battery?" The research questions that one could frame should be based on "what, how or why" typologies would not predict outcomes and would not lead the researcher in one direction or another but will allow room for more detail – open ended ness. However, 'Is', 'Are' 'Do' and 'Does' questions should only be framed if the researcher desires to establish a difference. However, a 'What' construction type of research could be appropriate.

Number and forms of research questions in a research project

Students of research have often asked how many research questions should be answered in a research project. My honest answer is that there is simply no way to determine this in an objective way or using any framework. You cannot go into a study saying, "I need to have one or two or five research questions." This is because there are bigger research questions and smaller research questions. Two big research questions might be sufficient for a study while it might require eight small ones for the two big research questions.

From the argument above, you will note that research may start with a broad, burning question (Cresswell, 2005; 2007¹⁸¹; Biklen & Bogden, 2007¹⁸²). Though some sort of overarching question may be needed to begin research as may be demanded by some supervisors, this question is often changed and refined during the research process (Maxwell, 2005¹⁸³). A single study may have multiple research questions, though Creswell (2007) encourages researchers to try to define one overarching question, which can then have a number of sub-questions. It is also possible that you may not have an overarching question but have a string of independent questions which can direct the project.

¹⁸¹ Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage

¹⁸² Bogdan, R.C., & Biklen, S.K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Boston: Pearson Education.

¹⁸³ Maxwell, J.A. (2005). *Qualitative research design: An interactive approach* (2nd Ed.). Thousand Oaks, CA: Sage..

A research problem is a way of framing the question as a series of prosaic statements; that is, the statement of the problem may provide some background and a logical flow toward the direction of study. My approach was to use the problem statement to frame the research question, and then to state the question fairly simply by referring to the previous discussion.

A research project can be driven by only one central or overarching question. This can be a broad question that asks for an exploration, or description or explanation or solution of the central phenomenon or concept in a study. To arrive at this question, the researcher is influenced the question "What is the broadest question that I can ask in the study?"

Looking at the importance of research questions, it is a rule that all research questions in a project are developed at the beginning and planning stages of a study. The primary question or an overarching question in essence forms the basis of the purpose or aim of the study. This is because the overarching question will later on determine the research design. The overarching question points to the aim of the study.

It must be kept in mind that within the scope of one study, the presence of a number of secondary research questions which the researcher may chose are likely to affect and potentially increase the complexity of both the study design and subsequent analyses, not to mention the actual feasibility of answering every question (Haynes, 2006).¹⁸⁴ A sensible strategy is to establish a single primary research question around which to focus the study plan (Punch, 2000¹⁸⁵; Sackett et al., 2000¹⁸⁶; Fisher and Wood, 2007¹⁸⁷; Cresswell, 2007, 2009¹⁸⁸; Blaikie, 2010; Neuman, 2014¹⁹⁰). However, this does not mean that the researcher cannot have a project without a primary question. It is possible that the researcher will have a string of research questions. However, any additional questions should never compromise the primary question because it is the primary research question that forms the basis of the hypothesis and study objectives. It must be kept in mind that within the scope of one study, the presence of a string research questions may affect and potentially increase the complexity of both the study design and subsequent analyses, not to mention the actual feasibility of answering every

¹⁸⁴ Haynes, B. R. (2006). Forming research questions. *J Clin Epidemiol.* 59:881–886

¹⁸⁵ Punch, K. (2000). *Developing effective research proposals*. London: Sage.

¹⁸⁶ Sackett D, Strauss S, Richardson W, et al. (2000). *Evidence-based medicine: how to practice and teach evidence-based medicine*. 2nd ed. Edinburgh (UK): Churchill Livingstone.

¹⁸⁷ Fisher CG, Wood KB. (2007). *Introduction to and techniques of evidence-based medicine*. Spine. 32(Suppl):S66–72.

¹⁸⁸ Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks: Sage Publications.

¹⁸⁹ Creswell, J. W. (2009). *Research design: Qualitative, quantitative and mixed methods approaches* (3rd ed.). London: Sage Publications.

¹⁹⁰ Neuman, N.L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches*. Seventh Edition. Pearson Education Limited. Edinburgh Gate.

question (Haynes, 2006). However, from the string of research questions, there will be a primary question. We shall come to this later on in this section.

Interest in a particular topic usually begins the research process, but it is the familiarity with the question that helps far much more. Questions arise out of a perceived knowledge deficit within a subject area or field of study. Indeed, Haynes (2006) suggests that it is important to know “where the boundary between current knowledge and ignorance lies.” It is thus very clear that new knowledge ideally originates from having asked answerable questions. To find new and useful answers to important problems that have not already been resolved, is what counts as the most profound research than that which tends to replicate. In essence, in case of the former type of research, you need to know a lot about the problem and precisely where the boundary between current knowledge and ignorance lies as Karl Popper would like us to go about doing research. Without knowing a lot about the problem, it is difficult to imagine that plausible interventions will be developed. Knowing a lot about the problem requires demonstrating what is known and what is yet to be known or what is done and what is not done. This is what most researchers consider as gaps in research.

The position we are advancing of promoting research questions over scores what notable authors on research have postulated about fronting research objectives and not research questions. Intellectual curiosity to questions and not objectives are often the foundation for scholarly inquiry into the fact. It must however be noted that that there has been so much debate around the two in terms of what must be fronted. In this book, research questions are fronted instead of research objectives and evidence of their use has been shown.

What examiners of theses and dissertations, reviewers of research grants and reviewers of protocols in ethics committees have observed is that there are meaningful and non-meaningful research questions as well as beneficial and non-beneficial research questions. In some instances, there are numerous research questions which may be framed. However, a rule of thumb is that not more than five will be ideal in a research project apart from the overarching question. It ought to be noted that the number of questions you attempt to address should be based on the complexity of the problem you are investigating and what areas of inquiry you find most critical to study. Practical considerations, such as, the length of the paper you are writing or the availability of resources to analyse the issue can also factor in how many questions to ask. These questions can be explicitly covered as issues in the introduction or the statement of the problem. Questions must be clear, intelligible and unambiguous, focused, but not too narrow, capable of being researched through data collection: not too abstract, informed by and connected to existing research or theory, but with the potential to make an original contribution or to fill a gap. Explicitly listing your research questions at the end of your statement of the problem can help in designing a clear roadmap of what you plan to address in your study, whereas, implicitly integrating them into the text of the introduction allows you to create a more compelling narrative around the key issues

under investigation. It is good practice to revise and refine the research question several times to ensure that you are very clear about what it is you really want to know.

As for commissioned research, it involves a rather different process. Usually the client spells to the researcher the kinds of key research questions or objectives to be addressed in levels of detail which vary considerably between commissioners. The researcher's role is to demonstrate an understanding of the assignment and stick to the form of the research questions. In this book, we are proposing using what we call the W and H model of asking research questions. This model is discussed in the next section within this unit.

Forms and Hierarchy of Research Questions

We saw in the earlier sections of this unit the many errors and challenges we face when we ask questions. In order to simplify how to formulate research questions, we have come up with a model. This model is called the W and H model. The model proposes researchers to develop

- (a) 'What' types of questions
- (b) 'Why' types of questions and
- (c) 'How' type types of questions

Below, we describe the nature of the three forms of research questions.

The nature of 'What' Questions

What questions lead you to explore or describe and to predict phenomena. In terms of description exploration and description of phenomena, what questions may demand descriptions based measurements or verbal accounts or observations. What questions are at times forerunners to why questions.

The nature of 'Why' Questions

Why questions are concerned with understanding or explaining some characteristics of some phenomena like its regularities or irregularities and perhaps making some predictions about some of its aspects. Essentially, the 'why' type of question addresses cause and effects or relationships between two or more phenomena. The 'why' question can be answered once the 'what' questions have been settled. The 'why' question therefore is superior to the 'what' question. This is because the features of a 'why' question can only be established following exploration and description.

How Questions

How questions are concerned with processes, practical out comes, evaluation and interventions. How questions tend to also cover things that border on generative

mechanisms in which change might come about. If a project has a 'what' and how' questions or a 'why' and a 'how' question or a 'what', 'why' and a 'how' question, the 'how' question becomes the overarching question. The how question therefore is superior to both the 'what' and 'why' question. This is because the features of a 'how' question can only be established following exploration, description, explanation and understanding.

A point worth mentioning is that a research project could be based on what questions only, or why questions only or how questions only or a combination of these.

Structuring Quantitative Research Questions

Now that we know about the types of research questions and the hierarchy of the research questions, we need have to determine whether the researcher question ought to be broad or specific. Writing a research question requires balancing between breadth and specificity. A question can be so broad such that it does not offer much direction in terms of what to study and how to study it. At the same time, a research question can be so specific such that you risk "tunnel vision," leading you to miss important data or unexpected phenomena (Maxwell, 2005¹⁹¹). A good researchable question is one that can be directly investigated using the research tools at hand.

There is no "one best way" to structure a quantitative research question. However, to create a well-structured quantitative research question, we want you to know that quantitative researchers ask only what and why questions. From 'what' questions, quantitative researchers formulate three types of questions, which demand description, comparison relationship and from why questions, researchers formulate causal questions.

Before you decide formulating your research questions, we recommend an approach that is based on four steps:

- 1) Choosing the type of quantitative research question you are trying to create (i.e., descriptive, comparative or relationship-based);
- 2) Identifying the different types of variables you are trying to measure, manipulate and/or control, as well as any groups you may be interested in;
- 3) Selecting the appropriate structure for the chosen type of quantitative research question, based on the variables and/or groups involved; and

¹⁹¹ Biklen, S. K., & Bogdan, R. (2007). *Qualitative research for education: An introduction to theories and methods*. Boston, Mass: Pearson A & B.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks: Sage Publications.

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach*. Applied social research methods series, v. 41. Thousand Oaks, CA: Sage Publications.

- 4) Writing out the problem or issues, you are trying to address in the form of a complete research question.

In this section, we discuss each of these three steps, as well as providing examples for the three types of quantitative research questions you may want to create as either descriptive, comparative or relationship/cause-based. This is how we expect you to proceed.

STEP ONE

Choose the type of quantitative research question (i.e., descriptive, comparative, relationship or causal) you are trying to create. The type of quantitative research question that you use in your dissertation or thesis (i.e., descriptive, comparative, causal/relationship-based causal/ or comparative-based) needs to be reflected in the way that you write out the research question. What we mean here is the word choice and phrasing that you use when constructing a research question tells the reader whether it is a descriptive, comparative, causal/ relationship-based causal/ or comparative-based question. Therefore, in order to know how to structure your quantitative research question, you need to start by selecting the type of quantitative research question you are trying to create.

STEP TWO

Identify the different types of variable you are trying to measure, manipulate and/or control, as well as any groups you may be interested in

Whether you are trying to create a descriptive, comparative or relationship/causal-based research question, you will need to identify the different types of variables that you are trying to measure, manipulate and/or control. If you are unfamiliar with the different types of variables that may be part of your study, the section relating measurement of variables in book II, should get you up to speed. It explains the main types of variables: categorical variables (i.e., nominal, dichotomous and ordinal variables) and continuous variables (i.e., interval and ratio variables). It also explains the difference between independent and dependent variables, which you need to, understand to create quantitative research questions.

To provide a brief explanation; a variable is not only something that you measure, but also something that you can manipulate and control for. In most undergraduate and master's level dissertations, you are only likely to measure and manipulate variables. You are unlikely to carry out research that requires you to control for variables, although some supervisors will expect this additional level of complexity. If you plan to only create descriptive research questions, you may simply have a number of dependent variables that you need to measure. However, where you plan to create comparative and/or relationship/causal-based research questions, you will deal with both dependent and independent variables. An independent variable (sometimes called an experimental or

predictor variable) is a variable that is being manipulated in an experiment in order to observe the effect this has on a dependent variable (sometimes called an outcome variable). For example, if we were interested in investigating "Financial crimes like corporate money laundering how it affects economic growth". The independent variable would be financial crimes and the dependent variable would be economic growth. This example also highlights the need to identify the group(s) you are interested in. In this example, the group of interest are or men and women or even government departments in high offices.

Once you identifying the different types of variable you are trying to measure manipulate and/or control, as well as any groups you may be interested in, it is possible to start thinking about the way that the three types of quantitative research question can be structured. We discuss this aspect next.

STEP THREE

This time, we have to select the appropriate structure for the chosen type of quantitative research question, based on the variables and/or groups involved. The structure of the three types of quantitative research questions differ, reflecting the goals of the question, the types of variables, and the number of variables and groups involved. By structure, we mean the components of a research question (i.e., the types of variables, groups of interest), the number of these different components (i.e., how many variables and groups are being investigated), and the order that these should be presented (e.g.,

independent variables before dependent variables). The appropriate structure for each of these quantitative descriptive research questions is set out below:

Structure of descriptive research questions

For every descriptive research question, choose your starting phrase and this could be a 'what' question.

You can start descriptive research questions with any of the following phrases:

- a) What quantum?
- b) What frequency?
- c) What percentage/proportion?
- d) To what extent?
- e) What is?
- f) What are?

Some of these starting phrases are highlighted in blue text in the examples below:

- 1) **What amounts** of financial crimes have been involved in the high offices in the past five years?
- 2) What has been the **trend (frequency)** of financial crimes in the high offices in the past five years?
- 3) **What percentage** of the financial crimes constitute embezzlement?
- 4) **To what extent** are men and women involved in financial crimes?
- 5) **What is/are** the effect(s) of financial crimes on the economy?

Structure of relationship-based research questions

For every relational research question, choose your starting phrase and this has to be a 'what' question.

You can start your relationship research questions typically start with the phrase "what is the relationship" between X and Y?

An example will suffice.

- 1) **What is the relationship** between gender and financial abuses in high offices?

Structure of comparative research questions

For every comparative research question, choose your starting phrase and this has to be a 'what' question.

Comparative research questions typically start with one of two phrases:

If you are comparing two groups, you would ask 'What is the difference in...?'

If you are comparing three or more groups, you would ask 'What are the differences in...?'

These starting phrases are highlighted in blue text in the examples below:

- 1) **What is the difference** in financial crimes between men and women in high offices?
- 2) **What are the differences** in financial crimes in the government departments in the high offices?

Structure of a causal/explanatory research questions

For every causal/explanatory research question, choose your starting phrase and this has to be a 'why' question.

You start causal/explanatory research questions with the following phrases:

- a) Why do things happen as such?
- b) Why things are like that/this?

Some of these starting phrases are highlighted in blue text in the examples below

- a) **Why** are men and women in high offices involved in financial crimes?
- b) In spite of financial controls, **why** are there financial crimes in high offices?
- c) In spite of long prison sentencing, **why** do men batter women?
- d) **Why** women do not commit suicide by hanging?
- e) **Why** do staff report for work late?

Structure of a causal/comparative research questions

For every causal/comparative research question, choose your starting phrase and this has to be a 'why' question.

You start causal/comparative research questions with the following phrases:

- a) Why there are differences
- b) Why are there similarities

Some of these starting phrases are highlighted in blue text in the examples below

- 1) **Why there are differences** in pass marks between students taught by open distance learning and parallel learning?
- 2) **Why do females have similar** amount of linguistic ability following a reading intervention programme than males?

In the previous section, we illustrated how to write out the three types of research questions (i.e., descriptive, comparative and relationship/causal-based research questions). Whilst these rules should help you when writing out your research question,

the main thing you should keep in mind is to ensure that, your research question(s) flow and are easy to read.

Structuring Qualitative Research Questions

Just as we saw in the quantitative section above, there is no "one best way" to structure a qualitative research question. However, to create a well-structured qualitative research question, we want you to know that qualitative researchers ask 'what', 'why' and 'how' questions. The qualitative questions are neutral and are framed in an exploratory language that does not convey conclusions that you expect. There is a point worth emphasising before we proceed. The reflective and interrogative processes required for developing effective qualitative research questions can give shape and direction to a study in ways that are often underestimated. Unlike quantitative research questions, which tend to measure phenomena, qualitative research questions are about rendering 'microscopic' details of the social and cultural aspects of individuals' lives or a group of people's lives. It is for these reasons that qualitative inquiries involve asking the kinds of questions that focus on the 'what', 'why' and 'how' of human interactions and constructions.

There are preliminary issues you and I need to understand before we decide to formulate qualitative research questions. I hope you remember that there are two variants of abduction and that there are variations of qualitative paradigms.

We shall first address the two types of abduction. The first one is classical abduction, which is closely related with Husserlian phenomenology and bracketing, Glaser and Strauss's classical grounded theory and ethnography. The second one is modified abduction, which is closely related to the other types of phenomenology that do not embrace bracketing, Charmaz's modified grounded theory and other variants of qualitative research.

Classical abduction fits kinds of qualitative studies that do not begin with a plan (Richards, 2005:14)¹⁹² and this excludes having definite research questions and reviewed literature. Modified abduction requires definite research questions and these questions are informed by the literature review and at times by theories. However, in this book, we shall opt to structure our questions as though we were being directed by modified abductive logic. This has been decided because we want to front exploratory definite questions than getting into the world as total 'idiots'. In addition to this, most researchers do need at least some initial questions when developing dissertations as expected by

¹⁹² Richards argued that such an approach would be 'unacceptable for both ethical and practical reasons' (Richards 2005, 14).

dissertation committees and funded project proposals. Therefore, we have decided to the needs of those who desire to develop questions early as part of designing a qualitative study. However, we wish to implore you to appreciate that these initial questions are only a beginning point in the inquiry process and you should be flexible to tweak them as the research progresses. Creswell (2007: 107) observes that researchers ought to be mindful of this, as qualitative questions tend to be 'evolving.'

The second most important point worth discussing that determines the types of research questions is related to the variants of qualitative paradigms, which determine the research design, which we can pick if we are to structure our research questions. Novice researchers are often overwhelmed by the plethora of qualitative research paradigms and seemingly related assumptions. This makes the selection of an appropriate research design or paradigm or approach for a particular study difficult. We have provided a few underlying characteristics of qualitative paradigms. The aim of the following section detailing each paradigm is to illustrate to you what each paradigm posits. This will help you to appreciate why some types of questions appear to cut across the paradigms and why others appear to be specific for one. Here are a few you are expected to understand.

Ethnography

The first one we shall discuss is ethnography. What you and I have to remember about this paradigm is that ethnographic designs are about research involving intact cultural groups in a natural setting over a prolonged period. Researchers collect data of lived experiences mainly by participant observations plus any other appropriate methods'. Included in the 'other' category are interviews, focus groups, video or photographic work, statistics, modelling, archive work, and so on (Crang and Cook, 2007: 35¹⁹³). What you will be expected to focus is as an ethnographer is on everyday behaviours and how people strive to identify norms, beliefs and social structures. As an ethnographer, you will be expected to be immersed in the daily lives of people in their usual setting in order for you to get an interpretation of the culture or social group and all its systems from their point of view (LeCompte & Schensul, 1999¹⁹⁴; Leedy & Ormond, 2001¹⁹⁵; Creswell, 2003¹⁹⁶). Your aim as an ethnographer is to listen deeply to and/or to observe as closely as possible the beliefs, the values, the material conditions and structural forces that underwrite the socially patterned behaviours of people and individuals and the cultural meanings and beliefs people attach to activities, events, behaviours, knowledge, rituals and lifestyle. In ethnography, the folk point of view is very important than the

¹⁹³ Crang, M., and Cook, M.C.I. (2007). Crang. Doing Ethnographies. Sage Publications. Inc. London.

¹⁹⁴ LeCompte, M. D. & J. J. Schensul (1999). Designing and conducting ethnographic research, Walnut Creek, CA: Altamira

¹⁹⁵ Leedy, P. & Ormrod, J. (2005). A handbook for teacher research from design to implementation. New Jersey: Pearson Education.

¹⁹⁶ Creswell John W. (2003). Research Design: Qualitative, Quantitative and Mixed Methods Approaches, London: Sage.

researcher's view. This is because the folk view is the idea of a universe in a dewdrop, where each person or a cultural group offers a reflection of their culture including all their gestures, displays, symbols, songs, sayings, and everything else that has some implicit, tacit meaning (Schwartz and Jacobs, 1979¹⁹⁷; Krippendorff, 1978¹⁹⁸).

Ethnomethodology

The second one is ethno methodology. This paradigm offers a research design that has a different focus. It is a research design that focusses on the study of common-sense knowledge and particularly the methods that individuals use to give sense to and to accomplish their daily actions like: communicating, making decisions, and reasoning" (Coulon, 1995: 15¹⁹⁹). As an ethno methodologist, you will see or hear things in a group that participants are not consciously aware of. Ethno methodology assumes a more active role for the researcher, one that involves "breaking up" the standard routines of folk groups in order to see how strongly and in what ways group members mobilize to restore the cultural order. The researcher would do weird things, for example, at inappropriate times. One of the classic textbook examples is looking up at the ceiling in a crowded elevator. Some people would glance up to see what you're looking at; another person might ask what you're looking at; and yet another person might demonise you by saying "What's the matter, too good to ride the elevator with the rest of us?" The whole idea is not to break the law or even the norms of social conduct, but just do silly little things that violate customs or folkways, which will most likely get you labelled as odd, eccentric, or a folk devil. The researcher is then in a better position to understand the fragile and fluid processes of social control, as well as the rules that people use for maintaining cultural boundaries (Garfinkel, 1967;1974;²⁰⁰2002²⁰¹). In spite of the great theoretical potential of this research method, it is not all that commonly used. In fact, since 1989, most people refer to refined versions of this method as conversation analysis or sociolinguistics.

Phenomenological

Phenomenology is the philosophical name for the method of investigating or inquiring into the meanings of our experiences as we live them. The method is phenomenological reflecting on pre-reflective or lived experience. Phenomenologists reject the belief that

¹⁹⁷ Schwartz, H., and Jacobs, J. (1979). *Qualitative Sociology*. New York: The Free Press.

¹⁹⁸ Krippendorff, K. (1978). The Expression of Values in Political Documents. *Journalism Quarterly*:510—518.

¹⁹⁹ Coulon, I. (1995). *Ethnomethodology*. Thousand Oak. Sage Publications.

²⁰⁰ Garfinkel, H. (1967) *Studies in Ethnomethodology*. Prentice-Hall, Englewood Cliffs, NJ.

Garfinkel, H. (1974) On the Origins of the Term "Ethnomethodology." In: Turner, R. (Ed.), *Ethnomethodology*. Penguin, Harmondsworth, pp. 15–18.

²⁰¹ Garfinkel, H. (2002) *Ethnomethodology's Program: Working Out Durkheim's Aphorism*. Rowman & Littlefield, Lanham, MD.

objects in the external world exist independently and that the information about objects is reliable. People can be certain about how things appear in, or present themselves to, their consciousness (Eagleton, 1983; Fouche, 1993²⁰²²⁰³). To arrive at certainty, anything outside immediate experience must be ignored, and in this way the external world is reduced to the contents of personal consciousness.

The aim of phenomenology is the return to the concrete, captured by the slogan 'Back to the things themselves!' (Eagleton, 1983: 56; Kruger, 1988: 28²⁰⁴; Moustakas, 1994: 26²⁰⁵) as the mind 'paints them'. In the mind, there is the 'intentional nature of consciousness' or the 'internal experience of being conscious of something' (Holloway, 1997: 117). There is also dialogue between a person and one's world and we see that "the human world comprises various provinces of meaning" (Vandenberg, 1997: 7). According to Welman and Kruger (1999: 189²⁰⁶), "phenomenologists are concerned with understanding social and psychological phenomena (what is spoken or what is done) from the perspectives of people involved".

Symbolic interactionism

The term "symbolic interaction" refers, of course, to the analyses individuals' actions as they occur during interaction in everyday life as they mark out the meanings that persons give to their actions and factors that define those meanings. Central to symbolic interactionist thought is the idea that individuals use language and significant symbols in their communication with others. Rather than addressing how common social institutions define and impact individuals, symbolic interactionists shift their attention to the interpretation of subjective viewpoints and how individuals make sense of their world from their unique perspective.

The peculiarity of this perspective consists in the fact that human beings interpret or "define" each other's actions instead of merely reacting to each other's actions. According to Blumer, the characteristics of this design are (i) human interaction, (ii) interpretation or definition rather than mere reaction, (iii) response based on meaning, (iv) use of symbols, and (v) interpretation between stimulus and response. Blumer suggests that sociologists using a symbolic interaction design ought to adopt a number of assumptions and methods and these are:

1. The design should target action and the acting people in a setting. This is because human society consists of people as acting units and all activity in society springs

²⁰² Fouche, F. (1993). Phenomenological theory of human science. In J. Snyman (Ed.), *Conceptions of social inquiry* (pp. 87-112). Pretoria, South Africa: Human Science Research Council.

²⁰³ Eagleton, T. (1983). *Literary theory: An introduction*. Oxford: Basil Blackwell.

²⁰⁴ Kruger, D. (1988). *An introduction to phenomenological psychology* (2nd ed.). Cape Town, South Africa: Juta

²⁰⁵ Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

²⁰⁶ Welman, J. C., & Kruger, S. J. (1999). *Research methodology for the business and administrative sciences*. Johannesburg, South Africa: International Thompson.

from such acting units. The researcher as such has to focus on individuals who act based on the meanings objects have for them.

2. The design should focus on acting units' interpretations of each situation, and the action is then constructed or carried out in the light of that interpretation (Blumer, 1969²⁰⁷). The researcher should focus on interaction, which occurs within a particular social and cultural context in which physical and social objects (persons), as well as situations, must be defined or categorized based on individual meanings.
3. The design should focus on obtaining definitions of patterns of behaviours that take on repetitive forms in everyday life and this is because understandings of definitions from which are repetitive and enable people to act alike" (Blumer, 1969).
4. The design allows the researcher to be part of the process of interpretation, and put oneself in the position of the individual or group being examined. In order to do this, "the researcher must take on the role of the acting unit whose behaviour he is studying" (Blumer, 1969) focusing on meanings are continuously created and recreated through interpreting processes during interaction with others.

Grounded theory

Grounded Theory is listed by Creswell (2003²⁰⁸) as one of five research traditions among biography, phenomenology, ethnography and case study and distinguished in terms of reporting approaches, philosophical assumptions, data collection activities including the logic of sampling, data analysis strategies and representation, rhetorical structures and terms about verification. Grounded theory methodology (GTM) were first developed, in the 1960s, by Barney Glaser and Anselm Strauss (LaRossa, 2005:²⁰⁹839). The successful collaboration of Glaser and Strauss in research on dying in hospitals evolved into the "constant comparative method", or GT. The name underscores the generation of theory from data. Since the introduction of grounded theory, the methodology has diverged into three discernible schools of thought, or versions: (i) classic grounded theory, which is associated with Barney Glaser; (ii) evolved grounded theory associated with Anselm Strauss, Juliette Corbin, and Adele Clarke; and (iii) constructivist grounded theory, which stems from work by Kathy Charmaz. In this article, the authors present Corbin and Strauss' (2008) "provides the context of this method while the research requires that the theory must emerge from the data collected in the field rather than taken from the

²⁰⁷ Blumer H (1969) *Symbolic Interactionism: Perspective and Method*. Berkeley: University of California Press.

²⁰⁸ Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

²⁰⁹ LaRossa, R. (2005) Grounded Theory Methods and Qualitative Family Research. *Journal of Marriage and Family* 67 : 837–857.

research literature (Leedy & Ormrod, 2001). Grounded theory has also been used primarily in the sociology discipline because this method examines people's actions and interactions.

The primary aim of GT is to construct theory from the collected field data. In fact as quoted by Walsham (1995: 77²¹⁰). GT practitioners recommend against doing too much literature research prior to commencement as such a strategy may work against the definition of new theory: ...carefully to cover "all" the literature before commencing research increases the probability of brutally destroying one's potentialities as a theorist (Glaser and Strauss, 1967: 253²¹¹).

We have just presented the most common paradigms that structure the types of questions that qualitative researchers ask. There is no "one best way" to structure a qualitative research question. However, to create a well-structured qualitative research question, we want you to know that in all the above paradigms, qualitative researchers ask 'what', 'why' and 'how' questions. From all these questions, researchers formulate various types of questions, which demand description, understanding and accounting for change or social processes or events. Before you formulate your research questions, we recommend that you use the approach below that is informed by two steps:

- 1) Select the appropriate paradigm for the chosen type of qualitative research question (phenomenology, ethnography, ethnomethodology, symbolic interactionism or grounded theory.
- 2) Choosing the type of qualitative research question you are trying to answer (i.e., 'what' (meant to explore, describe and document), 'why' (meant to render an explanatory understanding²¹²²¹³) and 'how' to account for change or social processes or events. 'What' questions are descriptive for things that are static whereas 'how' questions are descriptive of things that are dynamic.

Developing 'what' questions. You can, for every what question, choose your phrase that relates to what you want to do and this could be;

- What is happening or likely to happen?

²¹⁰ Walsham, G., (1995), Interpretive case studies in IS research: nature and method, European Journal of Information Systems, 4, 74-81.

²¹¹ Glaser, B., & Strauss, A. (1967). The discovery of grounded theory: Strategies for qualitative research. New York, NY: Aldine de Gruyter.

²¹² two examples. We use aktuelles Verstehen, he says, to understand the meaning of '2 x 2 = 4' when read it or see it. This Weber called 'rational understanding'. And Weber contrasted this with understanding an outbreak of anger. This was another species of the genus aktuelles. But Weber's aktuelles Verstehen is concerned with the nature of the knowledge we have of others, not with that evidence, in virtue of which we are entitled to say that we know.

²¹³ Understanding of motivation according to Weber consists in placing human action "in an intelligible and more inclusive context of meaning". What is this supposed to signify? Erklarendes Verstehen Weber maintains, consists of placing an action into "a relation of which the actor or actors can be said to have been.

- What are the lived experiences of the social actors?
- What is the nature of culture in the research setting?
- What are the functions of culture/some phenomenon?
- What is social life like in the setting?
- What is/are the meaning(s) of things or concepts or what is linguistically spoken?
- What are the steps or stages of an event or act?
- What common sense methods do social actors (in a community/setting) use for negotiating social order in everyday life situations?
- What are the constituents of an act or thing or event?

Developing 'why' questions. For every 'why' question, choose your phrase and this could be:

- Why do social actors engage in particular acts?
- Why do social actors use particular gestures to communicate?
- Why do social actors select particular symbols or body language?
- Why do social actors organise social life or the lifeworld in a particular manner?
- Why do social actors do particular things in a lifeworld?

Developing 'how' questions. For every 'how' question, choose your starting phrase and this could be:

- How are people experiencing an event/ a series of events, and/or a condition?
- How do things work?
- How do social actors go about doing what they do?
- How do social structure go about doing what they do?
- How do social institutions go about doing what they do?
- How do things change/slow down or quicken or stop?

We have come to the end of the unit and now attend to the following.

Activity 9



- 1) Give three reasons why research questions ought to be developed before objectives?
- 2) What any three challenges are associated with developing research questions
- 3) What determines the number of research questions in a research project?
- 4) What should a researcher consider when structuring qualitative research questions
- 5) What should a researcher consider when structuring qualitative research questions

Summary 9



In this unit, we have learnt that all research is based on a central research question or a set of research questions. Research questions are viewed as a crucial early step that provides a point of orientation or focus for an investigation and all research questions must be distilled from the statement of the problem.

When structuring research questions, we need to be aware of critical challenges by avoiding poorly conceived or constructed questions asking research questions uninformed by a framework or heuristic, mirroring research questions to objectives and asking questions in any manner. Research questions are essentially of three types and these are “what, how or why” types. A study may have one research question or multiple research questions. In a research project, there is always a main research question, which can be a why if there is a combination of a want and why; or a how if there is a combination of a ‘what’, a ‘why’ and a ‘how’ question.

10.0 Unit Ten – Developing Research Questions from a statement of the problem

10.0 Unit Ten Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Justify why research questions should be developed from a statement of the problem.
- 2) To demonstrate using highlighters thematic areas in the statement of the problem that could be sources of research questions.
- 3) Describe the process that is used to determine for each research question the form of reality sought (ontology) and the corresponding logic for each research question that has been constructed.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever thought about where in the research proposal a researcher can decode research questions?
- 2) Do you think every research question ought to be with the researcher's preferred ontology and logic of inquiry?
- 3) Let us reflect about these three research questions



In this unit, we are going to discuss how to develop research questions from a statement of the problem. In the social sciences, the statement of the problem establishes the gaps that require answers. Drawing from the earlier units, I expect you to face no challenges formulating research questions.

We want to implore you to employ the principle of consistency. There must be a thread of the same story being told from the title, the problem statement and the statement of the problem. When these components of research are aligned, the whole research project will be coherent.

Let us look at how research questions in a project are weaved. In order to get started, I would like to urge you to use highlighters to try to sieve out pieces in the statement of the problem. You need to remember that the statement of the problem shows gaps, which require questions. These are the items we ought to highlight in the statement of the problem. Do not pay so much attention to text or sentences which could be connectors or which could be providing background information. In the examples which follow below, we highlight and place in bold sentences or phrases which point to a gap requiring answers. You will notice that after highlighting, it is possible to decide for each highlighted are what type of research question would be appropriate. That is to say one has to ask do I need a 'what' or 'why' or 'how' question. Once the right decision is made, then a set of questions are asked. It may well be better for you to write as many research questions as possible and decide which ones would be ideal to pursue. Below are three examples of statements of problems to help you appreciate the process of framing questions.

The first example is as follows:

Entrepreneurship is the least favoured career option among Supershine University graduates. There seems to be a preference for a formal job by most of the students. This seems to match with certification of education. Unfortunately, positions in both the public sector and private sector have been getting lesser and even freeze due to policy changes (Min of Fin. Bulletin, 2014). Unemployment has gone beyond the acceptable limit and new graduates keep adding to the national statistics the numbers of unemployed graduates. Currently the gross figures of the unemployed is 31 percent of the productive national labour force. In number terms, 443,000 of national estimates does not look small anymore. However, the quantum of the graduate component of this 31% that is unemployed remains undetermined. However, a number of variables remain undetermined. Research is yet **to quantify from the student's population of pre-final students the magnitudes of the preferred means of livelihood (to be an entrepreneur or an employee) among pre-final graduates. It would also be**

research prudence to appreciate the reasons among the various categories of graduating students. There is yet no research evidence that has been availed relating to the meaning attached to a job or to being an entrepreneur among Supershine University pre final graduates.

Consequently, the absence of all this reliable evidence is adding more to the unemployment problem and an evidence-based solution is needed. This is compounded by the fact that there is no evidence which has rang a wake-up call to urge serious commitment from (a) university authorities to re-design their curricular in order to embrace entrepreneurship knowledge and skills and (b) the Zambia Economic Empowerment Commission to re look at their empowerment roles especially for would be entrepreneurs.

Research Questions

- 1) From the population of pre final graduates, what is the estimate of pre-final graduates that would desire to be in formal employment and to be entrepreneurs? (This is demanding a answer in form of a measurement of phenomena and as such the realist ontology and induction are appropriate)
- 2) From the cohort that would opt for a formal job, what is the meaning attached to it a formal job? (Nominalist ontology and abduction)
- 3) From the cohort that would opt for being an entrepreneur, what is the meaning attached to an entrepreneur. (Nominalist ontology and abduction)
- 4) Why do potential graduates from the Supershine University opt to have a formal job than become an entrepreneur? (realist ontology and deduction)
- 5) How can breaking into entrepreneurial activities be realised by:
 - (i) Supershine University Authorities in curriculum re-designing their curricular?
 - (ii) The Zambia Economic Empowerment Commission in empowering students to become entrepreneurs?

The second example is as follows:

The Energy Regulation Board (ERB) rule assures that all complaints from customers must be resolved within 48 hours. However contrary to the dictum, ZESCO Limited has given itself a target of 24hrs in which to resolve faults. In spite of this ERB rule, there have been complaints raised from a wide range of customer categories serviced by ZESCO Limited that there was an inherent delay beyond the turnaround time in responding to

faults once reported. Despite ZESCO Limited collecting data on registered faults, types of customers experiencing power interruptions and boasting as a leading quasi government corporation, **the company has not profiled what the distribution of fault resolution type is like (within and outside 48hrs) as stipulated by the ERB.** Further, there seems to be no attempt to determine the reasons for delays in resolving a reported fault within 48 hours and to provide lasting solutions so as to adhere to the ERB's turnaround time. If this study is not done, and especially solutions are not sought, the corporation will continue to lose revenue and it may be privatised.

1.3 Research Questions

Given this statement of the problem, this study was designed to answer the following research questions.

1. **What is the distribution of fault resolution type (within and outside 24hrs?)**
2. **Why is there a delay in resolving a reported fault within /beyond 24 hours?**
3. **How can the turnaround of 48 hrs set by the ERB be achieved in all cases?**

The third example is as follows:

One thing that puzzles Mr Brown Rodgers who is Irish and an investor in Zambia is the cultural shock of mourning. **He has been bewildered at the manner women in Zambia mourn for the dead. They not only cry but they utter words in mourning.** He is also puzzled at how women who may be quite and chatting would receive fellow mourners by wailing when a colleague enters the funeral home wailing. Mr Brown further observed that there seemed that a funeral was punctuated by a number of rituals which he had never seen in Ireland like the demand to have chicken's blood shed before burial, the sitting in the morning following burial to set free a widow or widower. To these, entire he opted to conduct a study.

He settled for the following as research questions:

- 1) **What counts as mourning among Zambian women?**
- 2) **Among Zambian women, what is the meaning of uttering words in mourning?**
- 3) **What is the meaning of a receiving a fellow mourner wailing the mourner enters the funeral home wailing?**

- 4) **What is the meaning of the ritual surrounding the chicken's blood before burial?**
- 5) **How do mourners set free a widow or widower?**

Activity 10



Given the statement of the problem below, can you formulate research questions that would benefit this study? Which is your overarching question and why?

The Global Strategy for Infant and Young Child Feeding, adopted by the World Health Organization (WHO) and the United Nations Children's Fund, states that the optimal feeding pattern for overall child survival is exclusive breastfeeding for the first 6 months and continued breastfeeding for up to 2 years and beyond, with complementary feeding from age 6 months, together with related maternal nutrition and support (WHO, 2003). The Global Strategy on prevention of maternal transmission of HIV contains specific recommendations for children in exceptionally difficult circumstances, including those born to HIV-positive women. For these women, avoidance of all breastfeeding is recommended if replacement feeding is acceptable, feasible, affordable, sustainable and safe (WHO, 2004).

Following the implementation of PMTC, Nutrition education has been given to all mothers at ANC Clinics encouraging breastfeeding and replacement feeding. However, there are a number of public health challenges related to infant feeding when a mother is HIV positive. The first problem is that, for mothers who test positive, there is still no evidence in Zambia to assert if replacement feeding is acceptable, feasible, affordable, sustainable and safe (see WHO, 2004 guidelines). The second is associated with uptake of the practice, which is undocumented, and the third is about mortality and morbidity in the population of mothers practicing replacement feeding. Globally, little is known about how replacement feeding affects infant morbidity or mortality in the context of PMTCT programmes (Kiarie et al., 2004; Koniz-Booher et al., 2004); the indications are that mortality is high for both uninfected and infected infants of HIV-positive mothers (Newel et al., 2004). Given this scenario, some African researchers have called for more studies to clarify these problems (see Urogo et al., 2003; Nketem et al., 2009).

Summary 10



In this unit, we have learnt that research questions follow from the issues that are not clear. These unclear issues are reflected in the statement of the problem. One of the best ways to help you structure research questions is to highlight in bold sentences or phrases, which point to a gap requiring answers. You will notice that after highlighting, it is possible to decide for each highlighted area what type of research question would be appropriate. For each area that is highlighted, decide to frame a 'what' or 'why' or 'how' question. Once the right decision is made, then a set of questions are asked. It may well be better for you to write as many research questions as possible and decide which ones would be ideal to pursue.

We have come to the end of Book I. It has been an exciting journey and we hope you proceed to reading book II.

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How this course manual is structured

Course overview

The course overview gives you a general picture of research. Information contained in the course overview will help you determine:

- What you already know and what you need to know to explore further on your own.
- What you expect from the book.
- How much time you will need to invest to complete the course.

The overview also provides guidance on:

- Study skills.
- The main themes in other words.
- Activity icons which are about things you have to do and assess yourself to see if you have understood the key things and they also help you to evaluate change in knowledge, attitudes and skill you may have had covered before and after reading the units in the book.

We strongly recommend that you read the overview carefully before embarking on reading this book.

Structure of the Book

You will notice that the book is prepared in such a way as to provide you with foundational knowledge that you can build on. Therefore, the book is by no means exhaustive, and references provided at the end could be used for further reading. We want to first establish that the course in research methods stretches and across boundaries of many disciplines, and therefore the methods and processes used in research could be approached from many different angles. With the knowledge that you may have in investigations, you will see that they fit. Apart from this book and book II, you are expected to read widely around all the topics covered in the books. You may find the references provided at the end of the book as well as each unit useful, but you could also explore other sources of information, particularly the Internet which has a lot of websites with invaluable information. Should you need any help, please contact the department in the school of humanities and social sciences and you will be linked to the lecturer or tutor who will be of much more help than the book.

In addition, you will see that the course comes with a list of recommended textbooks, which are not necessarily compulsory to acquire, but they may be read as supplements to the course material.

Pre Requisites

Book I as a pre requisite for this book. You need to be conversant with the preliminary work you did in book I because you have to build on it.

Modular Study Units

There are ten units in this book. Each unit addresses some of the learning outcomes. You will be asked to complete various tasks so that you can demonstrate your competence in achieving the learning outcomes.



Study Skills

You may not have studied by distance education before. Here are some simple tips for you to follow, which will help you do better in your learning and keep you focused- we advise that you:

- 1) Set goals such as how I will succeed in this course. At the beginning of the book, we advise that you break the lessons into manageable chunks. You might not have time to do a full lesson in one night, therefore, it will be prudent to plan how much you can do, then stick to your plan until you are done.
- 2) Establish a regular study/learning schedule
- 3) Determine what time is best for you to study
- 4) Have a dedicated study place with all the supplies you might need
- 5) Tell people what you are doing because only then are you more likely to stick to a course.
- 6) To ask someone to proofread the assignments that you write as well as your work before you submit it.
- 7) That if you do not understand something, ask your tutor, who will be able to help you.
- 8) Search for the meaning of principles and concepts instead of just memorizing them.

Time frame



You are expected to spend at least 160 hours of study time on this book. In addition, there shall be arranged contacts with lecturers from the University from time to time during the course. You are requested to spend your time judiciously so that you reap maximum benefit from the course.

Study Time: 80 hours

Assessment

Continuous Assessment 50%

- One Case Study 15%.
- One Written Assignment 15%.
- One Test 20%

Final Examination 50%

Understand difference between descriptive and explanatory research;
(2) Formulate research questions and frame them within the existing literature;
(3) Master four main types of research designs; experimental; longitudinal; cross-sectional; and
case study design and their sub-types;
(4) Understand their analytical strengths and weaknesses;
(5) Address issues of validity, sampling, and consistency in investigation
(6) Anticipate and address ethical issues of your research;
(7) Write a concise statement of purpose;
(8) Develop a research design;
(9) Write a good draft outlining the analytical methods to be used in the project (the strength of
this element will depend on your existing knowledge of these analytical methods).

Required Reading

Creswell, J. W., & Plano, C. V. L. (2011). Designing and conducting mixed methods research. Los Angeles, CA: Sage.

Delanty, Gerard. & Strydom, Piet. Philosophies of Social Science: classic and contemporary readings Open University Press, 2003.

Norman Blaikie, (2010). Designing Social Research - The Logic of Anticipation. Polity, Oxford.

Norman K. Denzin and Yvonna S. Lincoln. (2011). The SAGE Handbook of Qualitative Research. Fourth Edition. Sage Publications. Thousand Oaks.

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Overview



Welcome to research methods module II. This module offers another exciting journey in research, which you could use in your work. It is still about researching society where you live and where you spend time working.

This is the second book and it introduces to you the field of research as seen in the humanities and social sciences. The book will help you to appreciate the thinking around this interesting subject called research. This book, which is the second one in a series of two books, will lay the foundation for research for you.

We hope that you will reflect on the content and activities in this book coupled with your experience in the areas of specialization to develop competencies to be able to develop and manage psychological needs related issues.

Aim of Book II

The purpose of the module is to help you to develop the various parts of a research proposal.

1.0 Unit One – Developing Research Aims

1.1 Unit One Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Discuss at least two misconceptions in the formulation of research aims.
- 2) Identify an overarching question with a view to structure an aim befitting the appropriate logic.
- 3) Differentiate the five types of aims of research based on the preferred logic of an overarching question.
- 4) With each aim, describe how research begins and ends in structuring research objectives

Here is the point of reflection before we look at this sub unit



Reflection

- 6) Do you know that researchers unlike others aim at only one thing?
- 7) People write aims as they wish but researchers do not do so. They are structured. What do you think makes them to be structured?
- 8) You may have to pose for a while, reflect and write down what you think about these two questions for you to get started.



In this unit, we are going to examine how we develop aims in a research project. Aims are necessary in a research project and they actually relate to what the overarching question the research project is pursuing.

We have observed that most of the student projects have faulty aims because they do not assign enough time and thought at the start to properly define the project's research aim. As a result, precious time and resources tend to be wasted developing irrelevant tools as well as collecting irrelevant or unnecessary research data.

Errors or Misconceptions of aims and objectives in proposals

Before delving into writing research aims, it is prudent for us to identify errors to avoid when writing aims. In social science research, aims are not just written anyhow since there is a logical frame that is used. The following are the most common misconceptions in research proposal writing.

The first misconception is that students write objectives using all sorts of verbs. They learn this wrong art and wrong science from strategic planning lessons which knowledge they bring into research. While it is true that in strategic plan pillars are one of the fundamental building blocks of a strategic plan, strategic planning practitioners develop strategic objectives using all sorts of verbs. They further insist that strategic pillars or objectives must be Specific Measurable, Achievable or acceptable, Realist and Time bound (SMART). If we rod on this wagon, we shall be lost. You will never see an objective in research fulfilling this acronym. In case you do not but this argument, I wish to challenge you to pick 15 journals and examine the aim/purpose of the study and any objectives. You will agree with me. Let us assume that this SMART thinking was correct. Do you still think qualitative objectives should be SMART as well? If the answer is 'Yes' why do you say so? If the answer is 'No', why do you say so?

The third misconception stems from a very serious error. Some students are advised by their dissertation supervisor to just convert research questions into research objectives or vice versa. They also advice their students wrongly. They posit that for every research question or objective, there should be a corresponding number of items. This sounds convincing and it is obvious. The question I may ask you is "what then is the purpose in a research project of research objectives in this kind of arrangement.

The fourth misconception is that some researchers and students have a tendency of writing aims from their heads and in all such cases, these aims will obviously have no bearing on research philosophy.

The fifth misconception is that most of the people have a belief that research objectives follow from the aim. Based on this premise, they tend to divide the research aim into several connected parts. This is not always the case. A researcher can have research questions that may be demanding different forms of reality and differing research strategies. In this case, the research project cannot have several parts connected. When the research has diverging questions and more than one ontology, it is not possible to go ahead and select the parts that may be linked to the aim. We do not take research objectives to be structural elements directing the researcher always about HOW the research aim will be achieved. The argument is that in a research project, the researcher may have different questions, which are not converging.

If all these methods are full of error, then how does one develop objectives? In social science research, objectives relate to research questions and the selected logic. It therefore follows that once the ontology and logic directing the research question are settled an objective could easily be developed. We would advise you to follow the following structure:

In social science, we use a distinctive taxonomy in developing aims so that we could answer our research questions succinctly. The taxonomy is helpful in providing a basic hierarchical sequential model for developing an aim in a research project. We use a kind of taxonomy to develop aims. Taxonomy (from Ancient Greek: τάξις taxis, means "arrangement," and -νομία -nomia, "method"). This is a way of defining aims on the basis of how the researcher has selected the question in a hierarchy based on types of questions in a project. The researcher eventually chooses the most appropriate research strategy or logic within which the overarching research question can be grounded. This taxonomy in turn helps us in deciding what the aim of a research project is.

In book I, we discussed the hierarchy of questions. We have held the belief that 'what' questions are lower than 'why' questions and 'why' questions are lower than 'how' questions. When we select an overarching question, we are also expected to choose the preferred higher logic. In table 1, we present the table showing the hierarchy of questions. I hope you remember that there are five research strategies (induction, deduction, retroduction, abduction and pragmatism). Since every research question ought to be linked to each one of these research strategies, each is specialised in dealing with one type of question and as such, it aims at doing and achieving what it stands for differently. Table 1 below, depicts five types of logics or research strategies. For each research strategy, you will observe that it is associated with one, two, or three types of starting phrases of research questions. If you see a starting phrases of a question in bold, it means that it is the source of the overarching question. It therefore follows that the aim which appears below is closely linked to it.

Table 1: Aims of the five logics and their overarching questions

| Research Strategy | Inductive Actual Positivists | Deductive Critical Positivists | Abductive Humanists | Retroductive Critical Realists | Pragmatists |
|----------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Type of Research question | What | What , Why | 'What,Why, How' | What,Why, How | What, why, How |
| AIM | To establish universal generalisations that could be used as a pattern for explanations | Tests theories with a view to eliminate false ones and to corroborate the surviving ones | "To understand through verbal accounts social life (in terms of what is spoken or done/behaviour) from the point of view of the social actors and the motives of the elicited behaviour". | To discover underlying generative mechanisms in order to explain the observed regularities | To solve a practical problem looking at what works in the research process and results. |

Based on table 1 above, we then discuss how the aims were derived.

Induction and its aim

We begin with induction the logic which is best suited to answer 'what' questions from a positivist perspective. We came to understand in book I that Inductive approach starts with the observations and theories are proposed towards the end of the research process because of observations (Goddard and Melville, 2004)²¹⁴.

Inductive research "involves the search for patterns from numerous observations. When following an inductive approach, the researcher tends to develop empirical generalisations, which follow from the identified preliminary relationships as he progresses through his research (Neuman, 2003²¹⁵; Bernard, 2011)²¹⁶. The researcher may end up with theories – for those patterns through series of hypotheses or a law based on the occurrences of phenomena. We should remember that no theories or hypotheses would apply in inductive studies at the beginning of the research and the researcher is free in terms of altering the direction for the study after the research process had commenced (Goddard and Melville, 2004; Saunders et al., 2012)²¹⁷. Therefore, the aim of an overarching question which has a 'what' component in a project rooted in positivism, is to establish universal generalisations that could be used as a pattern for explanations (see table 1).

Deduction and its aim

The second is deduction, which is the logic that is best suited to answer why, questions from a positivist perspective. A deductive approach is concerned with "developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis" (Wilson, 2010:7)²¹⁸. It has been stated "deductive means reasoning from the particular (which is the theory that particularises phenomena how they could occur) to the general (to see how all cases can be referred to the theory's postulations. If a causal relationship or link seems to be implied by a particular theory, then might test to see if this relationship or link did obtain on more general circumstances" (Gulati, 2009:42)²¹⁹. Deductive approach can be explained by the means of hypotheses, which can be derived from the propositions of the theory. In other words, deductive approach is concerned with deducting conclusions from theories by trying to corroborate facts. Therefore, the aim of an overarching question,

²¹⁴ Goddard, W. & Melville, S. (2004). *Research Methodology: An Introduction* 2nd edition, Blackwell Publishing.

²¹⁵ Neuman, W.L. (2003) *"Social Research Methods: Qualitative and Quantitative Approaches"* Allyn and Bacon.

²¹⁶ Bernard, H.R. (2011) *"Research Methods in Anthropology"* 5th edition, AltaMira Press, p.7.

²¹⁷ Saunders, M., Lewis, P. & Thornhill, A. (2012) *"Research Methods for Business Students"* 6th edition, Pearson Education Limited.

²¹⁸ Wilson, J. (2010). *Essentials of Business Research: A Guide to Doing Your Research Project*. SAGE Publications, p.7.

²¹⁹ Gulati, P.M. (2009). *Research Management: Fundamental and Applied Research*, Global India Publications: 42.

which has a 'why' component in a project rooted in positivism is testing theories with a view to eliminate false ones and to corroborate the surviving ones (see table 1).

Retrodution and its aim

The third one is retrodution which is best suited to answer 'how' questions from a post positivist critical realist perspective. In both everyday life and social science, we frequently explain things by reference to causal powers" (Sayer, 2000: 14) that may be behind things we see or we do not see but happen. Retrodution is concerned with the process of understanding how things are as they are and not why. Therefore, the aim of an overarching question, which has a 'how' component in a post positivist project which is rooted in critical realism, is discovering underlying generative mechanisms in order to explain the observed regularities (see table 1).

Abduction and its aim

The fourth one is abduction, which is best suited to answer 'how', 'why', and 'what' questions from a post positivist perspective. In everyday life, humans interpret and construct social life. We frequently understand things, which have been given to us by people around us. We have no reason to make meanings of what people say or do except for what we do and say. Abduction is concerned the processes in social life, in the minds of people, the motives they have for particular actions and the mere description of what happens. Therefore, the aim of an overarching question, which has a 'how' a 'why' and a 'what' component in a post positivist project which is rooted in abduction, is to understand through verbal accounts social life (in terms of what is spoken or done/behaviour) from the point of view of the social actors and the motives of the elicited behaviour" (see table 1).

Pragmatism and its aim

Last but the least is pragmatism, which is best suited to answer 'how' questions from a post positivist perspective project which has a quest for solutions in everyday life. In both everyday life and social science, we always desire to address challenges, which come our way. Pragmatism is the logic for solutions. Therefore, the aim of an overarching question, which has a 'how' component in a post positivist project which is rooted in pragmatism, is to solve a practical problem looking at what works in the research process and results (see table 1).

We have come to the end of the unit and now attend to the following.

Activity



- 4) Discuss at least two misconceptions, which are linked with aims.
- 5) For each research strategy, match the corresponding type of starting phrases.
- 6) What research strategies are closely with the following aims:
 - a) To establish universal generalisations that could be used as a pattern for explanations
 - b) Tests theories with a view to eliminate false ones and to corroborate the surviving ones
 - c) To understand through verbal accounts social life (in terms of what is spoken or done/behaviour) from the point of view of the social actors and the motives of the elicited behaviour'.
 - d) To discover underlying generative mechanisms in order to explain the observed regularities
 - e) To solve a practical problem looking at what works in the research process and results.

Summary 1



The development of aims in research is riddled with numerous misconceptions. However, these misconceptions have been addressed by employing a logical framework and using the hierarchy of questions.

2.0 Unit Two – Developing Research Objectives

2.1 Unit Two Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Discuss at least two misconceptions related to the formulation of research objectives.
- 2) Formulate research objectives and frame them based on an appropriate ontology and a related research strategy/logic.
- 3) Distinguish qualitative and quantitative objectives during the process of research objective formulation.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Do you know that researchers unlike others aim at only one thing?
- 2) People write aims as they wish but researchers do not do so. They are structured. What do you think makes them to be structured?
- 3) You may have to pose for a while, reflect and write down what you think about these two questions for you to get started.



In this unit, we are going to examine how we develop research objectives in a research project. Objectives are necessary in a research project and they actually set limiters so that researchers do not stray.

We have observed that most of the student projects have faulty objectives because they do not assign enough time and thought at the start to properly define the project's research objectives. As a result, precious time and resources tend to be wasted developing irrelevant tools as well as collecting irrelevant or unnecessary research data.

Errors or Misconceptions of aims and objectives in proposals

Before delving into writing research objectives, it is prudent for us to identify misconceptions to avoid when writing aims. In social science research, objectives are not just written anyhow since there is a logical frame that is used. The following are the most common misconceptions in research proposal writing.

The first misconception is that students write objectives using all sorts of verbs. They learn this wrong art and wrong science from strategic planning lessons which knowledge they bring into research. While it is true that in strategic plan pillars are one of the fundamental building blocks of a strategic plan, strategic planning practitioners develop strategic objectives using all sorts of verbs. They further insist that strategic pillars or objectives must be Specific Measurable, Achievable or acceptable, Realist and Time bound (SMART). If we rod on this wagon, we shall be lost. You will never see an objective or an aim in research fulfilling this acronym. In case you do not but this argument, I wish to challenge you to pick 15 journals and examine the aim/purpose of the study and any objectives. You will agree with me. Let us assume that this SMART thinking was correct. Do you still think qualitative objectives should be SMART as well? If the answer is 'Yes' why do you say so? If the answer is 'No', why do you say so?

The third misconception stems from a very serious error. Some students are compelled by some authority to convert a research title into an aim. It sounds convincing and it is obvious. The question is what do you add to change the title into an aim? If we rod on this wagon, we shall be lost.

The fourth misconception is that some researchers and students have a tendency of writing objectives from their heads and in all such cases, these objectives will obviously have no bearing on research philosophy.

The fifth misconception is that of research question and research objective correspondence. Some universities promote the erroneous ideology of correspondence or mirroring. The ideology is that for all research questions, there ought to be an equal number of objectives. This inappropriate ideology is not supported by any philosophical position. What would happen if a research question demanded two types of realities? Is it possible to develop one research objective such that once read, readers would agree that the project would deal with the reality inherent of the nominalist as well as realist ontology? An example will suffice here. A student had in the proposal this question "Why do husbands barter their wives"? Is this research question demanding the researcher to present facts from a realist ontological perspective, from a nominalist perspective, or from both? If the researcher opted to present facts from a realist ontological perspective, what would the objective read like? What if the researcher opted to present facts from a realist ontology, what would the objective read like?

The sixth misconception is about the optimum number of objectives. Some supervisors render a prescription that a dissertation or thesis should have three to five objectives. This rule of thumb is erroneous. It is not supported by any philosophical position.

From all these misconceptions, one may ask a question..."what is the way out then of this quagmire?" This is how you get out of the quagmire:

- 1) STEP 1: Determine if the research question is demanding an answer in form of a measurement of phenomena (1st order construct - realist ontology - quantitative) or if it is demanding a rendition of some meaning of phenomena (1nd order construct nominalist ontology - qualitative) or if it is demanding an answer from more than one ontology (3rd order construct mixed ontology).
- 2) STEP 2: From step 1, do the following:
 - (a) If the research question is of the first order (demanding an answer in form of some measurement), then develop a quantitative objective.
 - (b) If the research question is of the second order (demanding an answer in form of meaning of some phenomena), then develop a qualitative objective.
 - (a) If the research question is of the third order (presenting in a nonspecific way) an answer could either be in form of meaning of some measurement of some phenomena), then develop TWO objectives addressing the two ontologies (for that research question, this therefore implies that there will be two objectives).

Below is table 2 to help simplify the development of objectives. You will notice that each research strategy looks at the two worlds differently (the inner world – nominalist ontology and the outer world realist ontology). Each ontology as such answers questions rather differently since the logics or strategies differ. In each strategy, researchers set off differently and finish rather differently. For instance, you

will notice that when researchers have what questions and they desire to employ an exploratory design, the ideal strategies are either the inductive actual positivist strategy or the abductive humanist strategy. In addition, the inductive actual positivist strategy is not appropriate for answering why and how questions. Each research strategy has a major and peculiar activity in a research project. If you see three asterisks, it implies that that is the major activity of the research strategy. Two asterisks indicates a moderate activity in the research strategy and one asterisk indicates a minor activity in a research strategy. As for the ?, it is not possible for a non-pragmatic mixed methods design. Each design may have its own thrust in terms of the question driving the study and the nature of the design. This matrix is not appropriate for causal or intervention based studies.

Table 2: Research Strategies, Designs and Types Of Questions

| | | Research Strategy | | | | | |
|--------------------------------|---------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------|-----------------------------|-------------------------|
| | | Positivist Research | | Post Positivist Research | | | |
| Design or Research Purpose | Type of Research question | Inductive Actual Positivist | Deductive Critical Positivist | Retroductive Critical Realist | Abductive Humanist | Mixed Methods Non-pragmatic | Mixed Methods Pragmatic |
| Explore | What | *** | * | * | *** | ? | * |
| Describe/ document | What | *** | * | * | *** | ? | *** |
| Predict | What | *** | - | - | - | ? | - |
| Predict | Why | - | *** | - | - | ? | - |
| Explain | Why | - | *** | *** | - | ? | ** |
| Understand | Why | - | - | * | *** | ? | *** |
| Change | How | - | - | *** | *** | ? | *** |
| Monitor | What, Why, How | *** | ** | * | *** | ? | *** |
| Social impact Assessment | What, Why, How | *** | ** | ** | *** | ? | *** |
| Evaluate | What and Why | *** | ** | * | *** | ? | *** |
| Impact Evaluation | What and Why | *** | *** | - | *** | ? | - |

Since we have appreciated the research strategies as shown in table 2 above, you observe that objectives are limited to ten verbs which appear below.

It is research prudence that objectives state only one thought (containing only one action). If you have to develop your objectives, use table 2. It is the best guide there is for you. Below we present a definite set of canonical objective constructs or purposes that are used in research.

- 1) Exploration (finding out something from a nominalist or realist ontological perspective)
- 2) Describe/document (show case details of thing qualitatively or quantitatively from a nominalist or realist ontological perspective)
- 3) Explain (establish the cause and effect quantitatively from a realist ontological and critical rationalist perspective)
- 4) Understand (establish reasons or meanings or process, construct - Create/make something (new design, performance, tool, etc)
- 5) Prediction (forecast outcomes under conditions)
- 6) Change or recommend an action or document process)
- 7) Evaluate (assess; judge)
- 8) Monitor (follow/fix)
- 9) Assessing impacts (do all the above)
- 10)Evaluating impacts

A proposal's research objectives should be clearly distinguished. They are better presented in separate sentences or paragraphs. Each research objective should be numbered.

Let us examine in detail what it entails to pursue these objectives.

Exploring

Researchers settle on conducting exploratory research if they are seeking answers to "What" questions. Exploratory research is the fundamental one and is of an initial research type which the researcher desires to carry out at the initial stage of study. In such cases, because little or no knowledge of variables exists that may be pertinent to the event or experience or how these variables may be related, an exploratory study will be ideal. Exploratory studies serve many purposes and the notable ones include: (i) Getting into a research area with an adequate understanding of what is to be investigated (ii) determining the feasibility of expanding the research, (iii) formulating questions or hypotheses for future research and (iv) generating foundational knowledge that could be used for making design decisions (Babbie, 1989²²⁰) and generating variables for future research.

Exploratory methods and procedures—particularly those involving non-systematic as well as systematic observations and experiments—have been used in basic research projects for purposes of discoveries in research. From these observations, exploratory researchers accumulate data about the object of study. They may begin from nothing (no variables or concepts or theories to guide the inquiry) or they may have provisional concepts (a priori concepts) to be used in the study. During the exploratory research project, researchers may develop concepts (when classical

²²⁰ Babbie, E. (1989). *The Practice of Social Research*. 5th edition. Belmont CA: Wadsworth.

induction is the logic driving the inquiry) or if they began with provisional concepts (when modified induction is the logic driving the inquiry), these concepts are then refined as the research goes on by evidence or from the literature review to gain precision.

In an exploratory inquiry, the researcher must start by gathering as much information about the matter being investigated as possible, and postpone the task of cutting away unnecessary data until you get a better picture about what is necessary. Any object can be looked at from several different viewpoints, either from the angles of various established sciences or just from miscellaneous practical points of view. When you embark on an exploratory inquiry, it is not imperative that you have to start your work by clarifying the essence of your object of study, i.e. what the object really is. Instead, you should try to contemplate and clarify how you see the object: should it be defined on micro level as a result of the individuals' instincts, drives and experiences, or maybe on macro level as an expression of development in society.

Describing

Perhaps the most basic and easily understood goal of scientific research is description. In short, description refers to the process of defining, classifying, or categorizing phenomena of interest. The main objective of descriptive research is describing the state of affairs as it prevails at the time of study. For quantitative researchers, describing entails providing factual accurate statistical data and characteristics about the population or phenomenon being studied. Description cannot be used to make inferences like what caused a situation. As for qualitative research, researchers, describing entails providing a detailed picture of lived experiences about the population or phenomenon being studied. These are presented as verbal accounts, narratives or pictures. In short descriptive research deals with everything that can be pictured or counted and studied.

It must be known from the outset that every research has a descriptive component and researchers take time to provide the form and nature of their findings in form of a detailed account or picture (in words) or a precise measurement (in numbers). Apart from this, descriptive researchers may also develop categories or variables, or document a sequence of cause effect relationships, steps or stages of an event or patterns of social relationships. Researchers who want to make a description of their data may wish to profile, define, segment, estimate and examine associative relationships. Although the data in description is factual, accurate and systematic, the research cannot describe what caused the observed facts in a situation. Thus, descriptive²²¹ research cannot be used to create a causal quantum relationship,

²²¹ For an accurate estimate of the relationship between variables, a descriptive study usually needs a sample of hundreds or even thousands of subjects; an experiment, especially a crossover, may need only tens of subjects. The estimate of the relationship is less likely to be biased if you have a high participation rate in a sample selected randomly from a population. In experiments, bias is

where one variable affects another. Descriptive research generally precedes explanatory research (see the next description under explanation). Descriptive research therefore is the most commonly used and the basic reason for carrying it out is to identify what is happening. From the above, it should be remembered that when researchers include the objective to describe, they are in essence seeking answers to "What questions," or "What changes over time or over different situations" The script for a descriptive research question would be as follows:

- Descriptive questions can seek to identify the degree of relationship that exists between two or more variables or categories.
- The script for a descriptive relationship question would be as follows: What is the relationship between (variable 1) and (variable 2) for (participants)?

Explaining

In the social world, we encounter events that may be known or unknown and we may have a description of it. Even after making a description of phenomena, in most instances we wonder why things are the way they are or why things work in that order. The desire to know "why," to explain by linking or establishing causes and effects, is the purpose of explanatory research. It builds on exploratory and descriptive research and goes on to identify the reasons for something that occurs. To explain is to establish the elements, factors or mechanisms that are responsible for producing the state of or regularities in a social phenomenon. For example, a descriptive research may discover that 33 percent of sex workers use condoms, but an explanatory researcher will be more interested in learning why the 33 percent use condoms and the rest do not. Explanatory research asks whether a particular event leads to another or whether an intervention works under ideal or selected conditions. Explanatory studies are valuable for understanding questions of ends but are of limited value for telling us how the process works from event one to event two and so on. Researchers may have data at hand and it may be prudent to account for the way phenomena (events) relate or induce events. We are constrained to explain these events not to do so based on our feelings and not even our imaginations instead, we should rely on some social theory or social law to make things very clear in terms of the reasons the sex workers use or do not use condoms.

In an explanatory research project, people normally develop or build up hypotheses drawn from laws or theories, which ought to be tested and experienced in the light of the existing literature and after that observe whether the data they have composed and collected can either be called on to support or disprove those hypotheses. The goals of explanatory research are not multifarious but the following are foundational in the sense that explanatory research tends to:

also less likely if subjects are randomly assigned to treatments, and if subjects and researchers are blind to the identity of the treatments.

1. Account for linkages of things not just reporting. Explanatory research does so by elaborating or enriching an existing theory's explanation.
2. Determine which of several explanations among competing theories the best is.
3. Determine the accuracy of the theory by testing a theory's predictions or principle.
4. Enriches a theory's predictions.
5. Provide evidence to support or refute an explanation or prediction.

Explanatory research findings may be used to conceptualise traits and generative mechanisms when it comes to study process or relational events. In essence it is a foundational premise to answering how questions.

Understanding

Being able to explain or describe something and having the ability to predict one thing based on knowledge of another are indeed important goals of social research, but they do not provide researchers with a true understanding of a phenomenon. For example, being able to predict a student's GPA in college based on his or her scores is important and very practical, but there is a limit to that knowledge.

The only way researchers could understand social life is by eliciting verbal accounts from social actors of how they go about constructing concepts as well as human action and what meanings they attach to the things they do and say. This accounting of what is done and said by the social actors is called interpretivism (Blaikie, 1993)²²² which is the social world as perceived and experienced by its members, from the inside. Whereas the construction of concepts and human action is called constructivism. Hence, the task of the social scientist is to discover and present this insider view, not to impose an outsider view on it in any way. This is unlike nomothetic researchers who attempt to do so through predefinition of dependent and independent variables. Understanding focuses on presenting the full complexity of human sense making as the situation emerges (Kaplan and Maxwell, 1994). Therefore as researchers, we have to understand the everyday beliefs and practices, the mundane, tacit and taken for granted that have to be grasped and articulated in order to provide an understanding of these actions (Blaikie, 1993, 2000).

There are two types of understandings in this respect these are *aktuelles verstehen* and *erklärendes verstehen*. In *aktuelles verstehen*, our focus of understanding is on the social actors assigning meaning to the construction of human action that we are

²²²Human experience is characterised as a process of interpretation rather than sensory, material apprehension of the external physical world, and human behaviour depends on how individuals interpret the conditions in which they find themselves. Therefore, social reality is not some 'thing' that may be interpreted in different ways; it is those interpretations. Hence, in contrast to physical reality, social reality is pre-interpreted and constructed by the mind.' (Blaikie, 1993)

observing directly-the immediate understanding of that which is experienced in everyday life when we know instantly what a person is doing although we may not know why they are doing it. In *erklärendes verstehen*, our focus is the assignment of meaning by the social actor in terms of motive for the human action or the use of particular words. In eliciting what has to be understood, as researchers we are constrained not to make any personal opinions of the social actors' action based on our feelings and not even our imaginations instead, we should rely on the social actors' viewpoints or accounts to make things very clear for us (Giddens, 1976: Weber, 1978).

The goals of understanding in research are not multifarious but the following are foundational in the sense that subjectivism tends to;

- 1) Advance knowledge about processes or what could be happening.
- 2) To discover everyday life world lay concepts that social actors use for particular things and situations.
- 3) To render meanings and motives for the things done or what is spoken.
- 4) To produce a technical account from everyday life world lay concepts, meanings and motives for the things done or what is spoken.
- 5) To develop an idiographic theory²²³ and test it iteratively
- 6) Advocate an extension of an idiographic theory or principle to new areas, new issues, and new topics.

Changing

In society, there are phenomena that are never permanent. Change is a term used within sociological research and applies to modifications in social structures or functions (processes). The objective change may deal with profiling the process that is involved in an activity to elicit orderly or disorderly patterns. When researchers are interested in the process or dynamics of social action or behaviour, they tend to examine the evolution of an activity. Therefore, we can say that researchers are interested in elucidating how social action or behaviour is constructed and its mechanism. Researchers may be uncomfortable with that status quo and would wish to make a difference, they want to change something in a particular direction, or they may wish to change the behaviour but rather fast, slow, or not at all. Change may be used to elicit a quantum variation over time. When researchers want to account for an effect of an intervention, change is what may be the focus. Researchers in numerous fields are occupied with questions that revolve around the crucial function of change in the maintenance of dynamic systems.

²²³ This is appropriate when an investigator seeks to generate new theory or reformulate ideas about a known phenomenon or process when some indication exists that current knowledge or theories may be incomplete or biased

While a great deal has been written about social change in sociology, organizational theory, and even psychology, much of what researchers do focus on the recalcitrance of social systems - how and why they resist change - rather than the change process itself. The elicitation of change may follow an explanatory account that relates one event over a quantum to another or an understanding of a situation that is described and is developmental.

Predicting

There are situations when researchers want to make claims about the future and this can only be done by predictions. Prediction-based research often stems from previously conducted descriptive research. Researchers who want to venture into predicting want to describe and explain what is probable in future under some conditions. Many important questions in social science involve predicting one thing based on knowledge of something else. For example, college admissions boards may attempt to predict success in college based on secondary leaving examination scores of the applicants. Employers may attempt to predict job success based on work samples, test scores, and candidate interviews.

Prediction research projects try to answer the question: "What happens to object **A** in time **B** if the evolution continues without interventions?" researchers are likely to make predictions when two or three types of information are combined when producing a prediction: past observations of some phenomena, recent observations from the phenomenon, and some knowledge about the normal pattern of long-term development of the phenomenon. This information can be presented in several alternative ways, but typically as follows:

- As numerical data in form of time series and this is the normal method; for developing shapes of phenomena or a series of pictorial presentations for elaborations. Besides, written and verbal presentations are always possible.

Prediction research projects also try to answer the question: Would **A** lead to **B** under particular conditions? This information can be presented in several alternative ways, typically as follows:

- A general theoretical model describing the normal development of the class of phenomena that shall be predicted. Especially useful are the models or theories which explain and define the dynamic invariance that usually is seen in the phenomena.

Monitoring

Monitoring refers to the routine tracking of a plan, In order to understand whether the policy and plan have achieved their intended objectives, it is necessary to: (i)

evaluate both, as documented; (ii) monitor the implementation of the plan; (iii) evaluate the implementation of the plan; and (iv) assess whether the objectives of the policy have been met, or to what extent they have been met. With monitoring, we are able to determine how well the plan is being implemented so that any identified problems can be rectified on an ongoing basis. In addition, monitoring is crucial to ensure that any evaluation of the policy or plan is based on the real, rather than the intended (but not actual), implementation. Areas in the plan which require close monitoring include an examination of whether:

- The activities outlined have been completed.
- The time frames set for each activity are being observed
- The inputs planned have been realized
- The outputs of the activities have been achieved
- The targets of the various short term strategies have been attained. This needs to be done on an ongoing basis and corrective actions taken where implementation is not progressing as planned/on schedule.

Evaluating

Evaluation, on the other hand, refers to a process of systematic appraisal to assess the Value, worth or effectiveness of the policy or plan, and it can take a number of different forms. Key to evaluation is ongoing monitoring to ensure that the plan is being implemented as intended. Where possible, it is useful to measure the health outcomes. However, where this is not feasible, other forms of evaluation, such as those that assess the degree to which services have improved, are equally important.

When researchers want to demonstrate the consequences of a past a social policy, project or program and wish to determine whether or not the desired outcomes have been met, it is prudent to consider doing an evaluation. Ideally, researchers decide to conduct an evaluation search if they want to (i) improve the design and performance of an ongoing program – A formative evaluation, (ii) make an overall judgment about the effectiveness of a completed program, often to ensure accountability – A summative evaluation (iii) inform decisions on operations, policy, or strategy related to ongoing or future program interventions (iv) demonstrate accountability to decision-makers and (v) generate knowledge about good practices.

Evaluating Impacts

Impact evaluation is an assessment of how the intervention being evaluated affects outcomes, whether these effects are intended or unintended. In impact evaluation, your desire is to affirm whether the intervention has (a) created a change in the lives of people or (b) the development goals of the project or program have created a change in the lives of people or (c) the intervention has contributed to the attainment

of goals. To affirm this, there has to be a comparison of an intervention and no intervention or counterfactual thinking.

In counterfactual thinking, we use our stored knowledge and experience of social reality to explore questions such as 'could one imagine X without Y'? If we consider presence and absence, the necessary and the contingent, the constitutive and the non-constitutive as opposites, we can say that counterfactual thinking is at the same time, dialectic, since in this reasoning we examine something in relation to its opposite (Danermark et al. 1997:101²²⁴).

The use of counterfactual thinking is central to social sciences research and is unavoidable in any field where researchers cannot perform controlled experiments (Tetlock and Belkin 1996²²⁵). As researchers, we often have to consider how something may be if the situation were to be different, in the absence of a control. Individuals use counterfactual thinking on a daily basis when reflecting upon a decision they have made and how the outcome may have differed had they made an alternative (Coricelli and Rustichini, 2010²²⁶). Similarly, researchers must use counterfactual thinking when considering how the outcomes of their research might differ according to the conditions under which their investigation occurred. However, these processes are often difficult to explain. Counterfactual thinking requires the researcher to identify the constitutive factors under which concepts exist, and to differentiate between constitutive factors and accidental circumstances. Impact evaluations help to describe positive and negative, primary and secondary long-term effects, which could have been produced by the intervention, directly or indirectly, intended or unintended.

Assessing Social impacts

When researchers want to gauge or make estimates in advance of possible consequences of a social policy, project or program and wish to consider alternative actions, policies, or projects, they set on the objective of assessing impacts. Impact assessments help to determine (social/cultural) conditions in areas or (human) populations, organisations, institutions in society that are likely to be affected by the regulatory action or policy or project or technological change so that practitioners may plan and make choices among alternative interventions. This is because social impacts are likely to induce social and cultural consequences on individuals, families or communities or social structures and social processes.

²²⁴ Danermark, B, Ekström, M, Jakobsen, L, And Karlsson, J C (1997) Generalization, scientific inference and models for an explanatory social science in Berth Danermark (Eds.) *Explaining Society: Critical realism in the social sciences*, Abingdon, Oxon: Routledge.

²²⁵ Tetlock, P E And Belkin, A (Eds.) (1996), *Thought Experiments In World Politics: Logical, Methodological And Psychological Perspectives* (New Jersey: Princeton University Press).

²²⁶ Coricelli, G And Rustichini, A (2010) 'Counterfactual Thinking And Emotions: Regret And Envy Learning', *Philosophical Transactions Of The Royal Society*, Vol.365, No. P. 241-47.

Below we present possible objectives that you could use in your research project based on the type of question and logic. You are advised to use these objectives and see how you could modify them to suit your research questions.

Table 3a: Data Collection Methods, Relationships with the Inductive/Abductive Exploratory Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Induction and abduction) | Specific situation when the objective is applied |
|---------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What | Explore | <ul style="list-style-type: none"> ▪ To investigate or find out what is happening and be familiar with basic facts/ the institutional or community setting as well as processes or way of life of people. ▪ Determine the feasibility of doing future research or interventions. |

Table 3b: Data Collection Methods, Relationships with the Inductive descriptive Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Induction) | Specific situation when the objective is applied |
|---------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What | Description | <ul style="list-style-type: none"> ▪ Generate new ideas or conjectures or hypotheses for future research. ▪ Identify/discover important variables ▪ To present/document what is happening or likely to happen by providing a highly accurate picture based on numeric or statistical measures. ▪ To document phenomena of interest based on numeric or statistical measures ▪ To present the characteristics statistically of individuals, or a group of people or a setting. ▪ To present the frequency with which a variable occurs or its relationship with another variable. ▪ To present regularities and irregularities with which phenomena or events occur. ▪ To present in a hypothetical or conceptual manner how phenomena or events tend to occur |

Table 3c: Data Collection Methods, Relationships with the Abductive descriptive Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Abduction) | Specific situation when the objective is applied |
|---------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What | Description | <ul style="list-style-type: none"> ▪ To present/document what is happening or likely to happen by providing a detailed picture (based on observations or social actors' lay/verbal accounts or text) ▪ To describe the lived experiences of social actors (based on observations or social actors' lay/verbal accounts or text) ▪ To describe the nature of culture in the research setting (based on observations or social actors' lay/verbal accounts or text) ▪ To describe the functions of culture or some phenomenon (based on observations or social actors' lay/verbal accounts or text) ▪ To describe what things are like or what social life is like (based on observations or social actors' lay/verbal accounts or text) ▪ To describe social action (based on observations or social actors' lay/verbal accounts or text) ▪ To describe the meaning of concepts or what is spoken (based on observations or social actors' lay/verbal accounts or text) ▪ To generate new ideas or concepts or theories for future research. (based on observations or social actors' lay/verbal accounts or text) ▪ To identify/discover/develop themes, subthemes, categories, subcategories and core categories (based on observations or social actors' lay/verbal accounts or text) ▪ To clarify a sequence of steps or stages of an event (based on observations or social actors' lay/verbal accounts or text) ▪ To document causal processes or mechanism (based on observations or social actors' lay/verbal accounts or text) ▪ To document phenomena of interest based on social actors' lay/verbal accounts or text) ▪ To develop typologies based on observations, of concepts or what is spoken or motives from social actors' lay/verbal accounts or text. ▪ To document from observations or meanings of concepts or what is spoken or motives, regularities and irregularities with which phenomena or events occur. ▪ To document common sense methods social actors (in a community/setting) use for negotiating social order in everyday life situations. |

**Table 3d: Data Collection Methods, Relationships with the deductive explanatory
Type of Research Question and Objectives pursued**

| Type of Research Question | Objective (deduction) | Specific situation when the objective is applied |
|---------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Why | Explanation | <ul style="list-style-type: none"> To test a model or theory in accounting for causes and effects To predict some future event or phenomena using a model or theory To elaborate and enrich a theory's explanation of causes and effects To extend a theory to new issues or topics of causal nature To support or refute an explanation or prediction of events To select the best explanation from possible theories or models of causes and effects To collaborate facts with theory. |

**Table 3e: Data Collection Methods, Relationships with the deductive understanding
Type of Research Question and Objectives pursued**

| Type of Research Question | Objective (Abduction) | Specific situation when the objective is applied |
|---------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Why | Understanding ²²⁷ | <p>To describe processes or what could be happening.</p> <p>To advocate an extension of an idiographic theory or principle to new areas, new issues, and new topics.</p> <p>To develop an idiographic theory²²⁸ and test it iteratively</p> <p>To discover everyday life world lay concepts that social actors use for particular things and situations.</p> <p>To elicit motives²²⁹ for the things done.</p> <p>To produce a technical account from everyday life world lay concepts, meanings and motives for the things done or what is spoken.</p> <p>To render meanings²³⁰ and motives for the things done or what is spoken.</p> |

²²⁷ According to MacIver, we can understand things that are known from the "inside." This however, does not mean that we must go inside the individual psyche to understand social action, but that we must go inside the social situation to understand it. When referring to facts obtained by "inside" information, MacIver points out that "we must project ourselves into the situations we are investigating. We must learn the values and the aims and the hopes of human beings as they operate within a particular situation. There is no inside story of why a meteor falls or why a liquid freezes." Robert M. MacIver as quoted by Harry Alpert, "Robert M. MacIver's Contributions to Sociological Theory," in *Freedom and Control in Modern Society* (edited by Morroe Berger, Theodore Abel, Charles H. Page (New York: D. Van Nostrand Co., 1954), p. 291.)

²²⁸ Qualitative research uses the understanding objective. This is appropriate when an investigator seeks to generate new theory or reformulate ideas about a known phenomenon or process when some indication exists that current knowledge or theories may be incomplete or biased. A qualitative method also may be used to identify questions and develop instruments for quantitative research.

²²⁹ 'Motivation' (Zweck) is something separate from the act and can only be 'understood' in a broader situational context.

²³⁰ 'Meaning' (Sinn) is something inherent in the act itself, a 'property' of the act rather than a 'cause' or 'purpose.' Therefore, one can 'understand' (i.e., perceive) what a person is doing (in terms of his 'intention') without knowing why he is doing it."

Table 3f: Data Collection Methods, Relationships with the impact assessment Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Pragmatism) | Specific situation when the objective is applied |
|---------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How | Impact Assessment Assessment | <ul style="list-style-type: none"> ▪ Clarify a sequence of steps or stages of an event ▪ To develop alternative scenarios ▪ To provide an estimate of an event happening under specified conditions ▪ To develop mitigation plans ▪ To identify the social and cultural consequences of technological change or program, project and policy actions on social structures, social processes and people. |

²³¹ Impact assessment is not restricted to the how question, it covers the “what and why” questions except that its main focus is on predicting social change.

Table 3g: Data Collection Methods, Relationships with pragmatic Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Pragmatism) | Specific situation when the objective is applied |
|---------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How | Monitoring Monitoring | <p>To improve the design and performance of an ongoing program – A formative evaluation.</p> <ul style="list-style-type: none"> ▪ Describe/document the program's strengths and weaknesses? ▪ Describe/document kinds of implementation problems have emerged and how are they being addressed? ▪ Describe/document the progress towards achieving the desired outputs and outcomes? ▪ Describe/document extent are the activities planned sufficiently (in quantity and quality) to achieve the outputs? ▪ Describe/document extent are the selected indicators pertinent and specific enough to measure the outputs? ▪ What revision do the selected indicators need if at all? ▪ What problems were experienced when data were collected on selected indicators? ▪ Describe/document extent have the indicators been used for monitoring? ▪ Why are some implementers not implementing activities as well as others? ▪ What is happening that was not expected? ▪ In what ways are staff and clients interacting? ▪ What are implementers' and target groups' perception of the program? ▪ What do they like or don't they like? ▪ Want changes do they want? ▪ In what ways are funds being used compared to initial expectations? ▪ In what areas can efficiencies be realized? ▪ In what ways (and How) is the external environment affecting internal operations of the program? ▪ Describe/document extent can we say that the originally identified assumptions to be valid? ▪ To what extent does the program include strategies to reduce the impact of identified risks? ▪ What new ideas are emerging that can be tried out and tested? |

²³² Monitoring is not restricted to the how question, it covers the "what and why" questions except that its main focus is to determine how the planned are going on, what short term targets are being achieved and what best options are needed to correct impediments towards the attainment of goals.

Table 3h: Data Collection Methods, Relationships with the impact assessment Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Pragmatism) | Specific situation when the objective is applied |
|---------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How | Evaluation Evaluation | <p>2. To make an overall judgment about the effectiveness of a completed program, often to ensure accountability – A summative evaluation.</p> <ul style="list-style-type: none"> ▪ To Describe/document the extent the program work? ▪ Determine/Describe/document whether the project, policy, program did it contribute towards the stated goals and outcomes ▪ Determine/Describe/document whether or not the desired outputs achieved ▪ To determine/Describe/document the extent policy, program, project implementation was in compliance with funding mandates ▪ Determine/Describe/document extent the funds were used for the intended purposes? ▪ Determine based on the results, what the decisions should be made on the program, policy, project to be continued or terminated/ expanded/ replicated. <p>3. To generate knowledge about good practices.</p> <ul style="list-style-type: none"> ▪ What is the assumed logic through which it is expected that inputs and activities will produce outputs, which will result in outcomes, which will ultimately change the status of the target population or situation (also called the program theory)? ▪ What types of interventions are successful under what conditions? ▪ How can outputs/outcomes best be measured? ▪ What lessons were learned? ▪ What policy options are available as a result of program activities? |

²³³ Evaluation is not restricted to the how question only. It is the story of a project or program that covers the “what and why” questions except that its main focus is to determine the worth of the whole programme and finding the best options if there were any impediments towards the attainment of goals.

Table 3i: Data Collection Methods, Relationships with the impact assessment Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Pragmatism) | Specific situation when the objective is applied |
|---------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How | Impact Evaluation | <ul style="list-style-type: none"> ▪ To explain the cause of observed changes (in this case 'impacts') referred to as causal attribution (also referred to as causal inference whether they are due to the intervention or not). ▪ To Describe/document how something may have been if the situation were different in the absence of the intervention (compare the case and control or baseline and end line). ▪ To Describe/document positive and negative, primary and secondary long-term effects produced by the intervention, directly or indirectly, intended or unintended. |

Table 3j: Data Collection Methods, Relationships with the impact assessment Type of Research Question and Objectives pursued

| Type of Research Question | Objective (Retroduction, abduction, pragmatism) | Specific situation when the objective is applied |
|---------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How | Change | <ul style="list-style-type: none"> ▪ To Describe/document how the elements go about doing what they do (change/slow down or quicken or stop). ▪ To postulate a mechanism or process that could be responsible for the observed or elicited events. ▪ To develop strategies or a framework that could be used to make things different or change the world or maintain the status quo. ▪ To Describe/document from their point of view how people experience an event/ a series of events, and/or a condition ▪ To Describe/document how things work ▪ To Describe/document how social actors go about doing what they do ▪ To Describe/document how social structures bring about things ▪ To Describe/document how do social institutions bring about things. ▪ To Describe/document how social actors interact |

Looking at the research questions, aims and their corresponding logic, we see a schema of relationships describing how we can begin and end decide on the types of objectives. The schema presented in table 4 below may be used for the following purposes:

- 1) For the classification of research based on research strategies that could provide a useful framework for the identification of aims and objectives.
- 2) Monitoring the evolution of a research project from the aim, how it starts on what it works on, where it goes to and the types of objectives that could be pursued.

Table 4: The Logical Set of Objectives of The Five Strategies

| | Inductive | Deductive | Retroductive | Abductive | Pragmatic |
|--------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Typical Questions | What Questions | Why Questions | What, Why and How Questions | What , Why and How Questions | What , Why and How Questions |
| AIM | To establish Universal Generalisations that could be used as a pattern for of explanations of observations | To test theories to eliminate false ones and to corroborate the surviving ones | To discover underlying generative mechanisms in order to explain the observed regularities | To Describe/document and understand social, life in terms of the social actors motives and their accounts | To solve a practical problem looking at what works in the research process or from the results of a study. |
| STARTS FROM | Accumulating observations or data | Borrows a construct or hypothesis or theory and expresses it as an argument upon which to refute a claim | Documenting/observing and models a regularity | Discovers everyday life lay concepts meanings of actions and motives of what is done | Any point and is embrative |
| WORKS ON | Procuring generalisations to develop laws | Develops hypotheses to be tested | Constructs a hypothetical model of a mechanism | Produces a technical account from a lay account | Processes, results and possible consequences |
| GOES TO | Use laws as patterns to explain further observations | Tests the hypotheses by matching them with data | Finds the real mechanism by observation and experimentation | Develop a theory and test it iteratively | Change things practically |
| PURSUES OBJECTIVE | To explore To Describe/document To predict | To explain To predict | To construct To explain To understand (Interpret, construct) To change To evaluate To assess impacts | To explore To Describe/document To understand (Interpret, construct) To evaluate To assess /evaluate impacts To change | To explore To Describe/document To evaluate To understand (Interpret, construct) To assess /evaluate impacts To change To explain |

We have come to the end of the unit and now attend to the following.

Activity 2



- 1) Discuss at least two misconceptions, which are linked with formulation of objectives.
- 2) Describe the steps required in formulating objectives
- 3) How would you differentiate quantitative based objectives from qualitative based objectives?

Summary 2



The development of objectives in research is riddled with numerous misconceptions. However, these misconceptions have been addressed by employing a logical framework and using the hierarchy of questions and linking them up with the research strategies.

3.0 Unit Three – Research Impact or Significance

3.1 Unit Three Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Explain the importance of the statement of significance in a research project.
- 2) Explain the linkage between the ethical principal of utilitarianism and the statement of significance in a research project.
- 3) Outline line common errors researchers make in formulating the statement of significance.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever had an opportunity to read a statement of impact or significance? What do you think it ought to contain?
- 2) Researchers use statements interchangeably like rationale, significance and justification. Would you know the reasons for such confusions? Do you think their usage does not matter?
- 3) You may have to pose for a while, reflect and write down what you think supervisors and contractors of research projects want written in the statement of impacts.

Research Impact and Significance



In this unit, we are going to look at the research impact of our research proposal. We are not going to look at the research impact of a dissertation or thesis at all. This is because at proposal stage, we are concerned with the anticipated uses of the research outcomes. The significance in the

Dissertation or thesis looks at the research outcomes and what the implications are. When we are writing the research proposal, we have to ensure that we fulfil an utilitarian principle because all research must have benefits.

The importance of the statement of significance in a research project

We need to appreciate from the outset that in social research, there ought to be benefits realised at the end of the research project. We should not only focus on the benefits that would accrue to us as researchers but to the greater community as well. If you embark on conducting research with a view to have a degree, it would not be considered a moral right. This is because it is an egoist motive.

Remember always that social research ethics is a sensible branch of moral philosophy and it deals with conflicts in obligations/duties that researchers have to the community and the potential outcome of research. Two strands of thought exist in social research ethics regarding the roles researchers ought to perform and the decisions they make and these are deontological and utilitarian. In deontological approach, we look at outcomes/consequences of our actions as researchers. Outcomes/consequences may not just justify the means to achieve what we want in research while in utilitarian approach; outcomes determine the means and greatest benefit expected for the greatest number. In brief, deontology is participant-centered, whereas utilitarianism is society-centered. Although these approaches contradict each other, each of them has their own substantiating advantages and disadvantages in social research practice. The research fraternity needs to balance both these ethical arms to bring congruity in research practice.

The linkage between the ethical principle of utilitarianism and the statement of significance in a research project.

Let us look at two examples of utilitarianism and deontology when writing the significance of the study. In utilitarian ethics, outcomes justify the means or ways to achieve it, whereas in deontological ethics, duties/obligations are of prime importance (i.e., end/outcomes may not justify the means).

In the utilitarian approach, decisions are chosen to conduct research based on the greatest amount of benefit obtained for the greatest number of individuals. This is also known as

the consequentialist approach since the outcomes determine the morality of the intervention. This approach could lead to harm to some individuals while the net outcome is maximum benefit. This approach is usually guided by the calculated benefits or harms for an action or intervention based on evidence. A few examples of utilitarian approach in research include working towards eliminating poverty in a village. In this case, the research ought to state what benefits would accrue to the participants if any or to the community being studied or the community of researchers and academicians and not forgetting policy makers. In essence, the statement of significance addresses questions like who will benefit from this study and in what ways? The statement of Impact address the Big Picture issues, like what, you intend to achieve.

You must convince folks that your study is worth allowing, funding, or reading. You should provide a strong impact that justifies the importance of the study and explain how the knowledge gained from your study will improve the field. Essentially, you are arguing for why the study is worth²³⁴ doing – or more strongly, why it must be done. Part of this argument is to put your study in context within the literature of the field (this is often done through the literature review) and to provide theoretical and/or practical reasons for the need to know the answer to the research question.

Keep in mind that the committee/reviewers or sponsors will be asking themselves why they should agree that this work should be done if there is no impact with respect to the state-of-the-art within the scientific and social scientific community. (You should ask yourself the same!) You need to convince them of that now before you begin the work. A clear statement of impact is a critical part of any good proposal. Impact issues normally cover policy changes; process changes programme design, and methods. They also cover gaps that are likely to be filled by the research including; new evidence, theory generation or revision, development of tools for data collection, analysis as well novel sampling techniques. It is prudent to be specific and tangible in detailing areas that will be directly affected by your efforts. Citing specific beneficiaries like people or institutions that stand to benefit from your efforts and are important.

Not only do you have to talk about the research impact, you need to remember that good research must add to the state-of-the-art; if it doesn't then either the work has been done already, or the answers to the problem are obvious. You should think about how your research will advance the state-of-the-art. What do you expect the major contributions to be? Here, you will be sticking your neck out a little in trying to predict the future, but your goal is to convince your committee/reviewers that you have given the problem sufficient

²³⁴ For example, the research can be: (a) theoretically interesting such that it helps us improve our theories (called basic or fundamental research), (b) both theoretically and practically interesting such that it helps us determine how well a particular theoretical application will really work in practice (called applied research), (c) practically interesting such that it helps solve a very specific problem (called action research), or (d) practically interesting such that it helps determine whether a particular program or policy has worked (called evaluation or policy research).

thought and can see how its solution will result in a significant contribution to the scientific community. Adding to the state of the art issues cover areas like what theory has been advanced and what it is likely to do or what methodological issues the study has generated that will be of import for future studies.

For a fundamental study or basic research where the researcher will be getting a degree following the inquiry the statement of impact should state (i) who will benefit (individuals, groups, institutions or communities like academia researchers and each potential beneficiary, how each will benefit. In academic research, benefits may include inter alias; addition to the existing body of knowledge, theory development or change, generation of methods or techniques and evidence for policy implementation as well practice implications.

For some fundamental studies and pragmatic studies, research could be conducted to solve a specific problem. This will require that you and I explaining the essence of the problem in a detailed manner and highlight practical benefits associated with the solution of the problem.

Attending dissertation and thesis defences has taught me appreciate the many variations examiners look at things especially points of differences. Students of research who pursue studies in the west are expected to say something about what the study will contribute to the level of professional development of the researcher. I suggest that you include this aspect in the statement of significance by explaining in what ways your research is likely to contribute to the achievement of your long-term career or employment aspirations in a detailed way.

For example, you have selected a research topic of "Testing the Resource based View Theory of the Firm in Sustaining Competitive Advantage among Tomato Traders on The Streets of Lusaka". You may state that you associate your entrepreneurial aspirations with becoming a Tomato Trader in Lusaka and accordingly, in-depth knowledge of competition in this industry is going to contribute your chances of success in your chosen entrepreneurial path. Therefore, you are in a better position if you have already identified your entrepreneurial objectives, so that during the research process you can get detailed knowledge about various aspects of your chosen business line.

One example of a statement of impacts and significance will suffice.

This study on gendered power in communication is significant in that it has notable strengths, especially with respect to the state-of-the-art within the social scientific community in the fields of sociology of medicine, communication and gender. This study is anticipated to make contributions theoretically and methodologically: Unlike most previous qualitative research, it is hoped that this study will provide a trail of an

ethnographer's path of the whole research design and process to enable other researchers render an appraisal or to replicate the study.

Another significance of this study is adding perspectives towards resolving the theoretical vacuum and theoretical fragmentation in medical sociological research that has been there. The vacuum and fragmentation is in part due to the relative absence of a theory that could account for the happenings in a medical encounter around power particularly between a doctor and a patient who has a gynaecological or obstetrical problem. Additionally, this study is likely to contribute towards the scientific world knowledge on institutionalised communication by the generation of communication typologies beyond the three earlier models, which were developed by Emmanuel and Emmanuel (1992), the Shared Decision-Making by Model of Szasz and Hollander (1956), and the Conversation Model advanced by Katz (1984).

Common errors researchers make in formulating the statement of significance.

While the statement of impacts is discussed in class, students and researchers continue to wallow in misconceptions. You need to remember the following misconceptions such that you do not commit them.

- 1) The first is that most statements of impacts are extensions and detailed elaborations of statements of problems.
- 2) The second one is an extension of the introduction or background to the problem and
- 3) The third one is just a series of statements that are not cohering.

We have come to the end of the unit and now attend to the following.

Activity 3



In this unit, we have learnt that it is important for you to be able to explain the importance of the research you are conducting by providing valid arguments. Your statement of impact needs to be specific and ideally, it should show the benefits and these may relate to the following points. The research needs to contribute to the elimination of a gap in the literature. Elimination of gap in existing pool of literature is one of the compulsory requirements for your study. You may have to address the theoretical, methodological or policy and practice issues. You will have to avoid statements of impacts, which are extensions and detailed elaborations of statements of problems, extending the introduction or background to the problem, and statements that are not cohering.

Summary 3



There are indeed important aspects of the statement of significance in a research project. Outline three only from what we have learnt?
What are the common errors researchers make in formulating the statement of significance? Discuss only two.

4.0 Unit Four - Reviewing the Literature

4.1 Unit Nine Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Demonstrate understanding of the role of literature review in a research project.
- 2) Outline literature review sources.
- 3) Describe the literature search strategy.
- 4) Delineate what the essential parts of the literature review are.
- 5) Describe the types of literature reviews

Here is the point of reflection before we look at this sub unit



Reflection

- 1) A friend of mine told me that he was given an assignment and he had to spend one week in the library researching. To what extent do you agree with his claim for research?
- 2) Have ever thought of what the role of reviewing literature is in a research project?
- 3) Would literature that has been reviewed be found wanting? Please explain this statement.

Literature Review



In this unit, we are going to devote some time to discuss literature review. Although you might think of novels and poetry when you hear the word "literature," for a piece of research the meaning is more specific.

In terms of a literature review, "the literature" means the works you consulted or you plan to consult in order to understand and investigate your statement of the problem as shown in your research questions. A Literature Review is "a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners. All you need to know about literature review is that we take it to be a critical and in depth evaluation of previous research. It is a summary and synopsis of a particular area of research, allowing anybody reading the paper to establish why you are pursuing this particular research program.

The role of literature review in a research project

A literature review goes beyond the search for information and includes the identification and articulation of relationships between the literature and your field of research. The purposes of Review of Literature are rather numerous. The following are the main purposes of the review.

- a) Providing a context for the research
- b) Justifying the research
- c) Ensuring the research hasn't been done before (or that it is not just a "replication study")
- d) Showing where the research fits into the existing body of knowledge.
- e) Learning from previous theory and methods on the subject;
- f) Illustrating how the subject has been studied previously
- g) Highlighting flaws in previous research
- h) Outlining gaps in previous research
- i) Showing that the work is adding to the understanding and knowledge of the field
- j) Helping to refine, refocus or even change the topic

Literature review sources

Literature review sources can be divided into three categories as illustrated in table below:

Table 5: Sources for the literature and examples

| SOURCES OF LITERATURE | CHARACTERISTICS | EXAMPLES |
|--------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Primary sources for the literature | High level of detail Little time needed to publish | Reports Theses Emails Conference proceedings Company reports Unpublished manuscript sources Some government publications |
| Secondary sources for the literature | Medium level of detail Medium time needed to publish | Journals Books Newspapers Some government publications |
| Tertiary sources for the literature | Low level of detail Considerable amount of time needed to publish | Indexes Databases Catalogues Encyclopaedias Bibliographies Citation indexes |

Your literature review should integrate a wide range of sources and the details follow below.

Government/corporate reports

Many government departments and corporations commission or carry out research. Their published findings can provide a useful source of information, depending on your field of study.

News Papers

Since newspapers are generally intended for a general (not specialized) audience, the information they provide will be of very limited use for your literature review. Often newspapers are more helpful as providers of information about recent trends, discoveries or changes, e.g. announcing changes in government policy, but you should then search for more detailed information in other sources.

Books

Textbooks remain as the most important source to find models and theories related to the research area. Research the most respected authorities in your selected research area and find the latest editions of books authored by them.

Magazines

Industry-specific magazines are usually rich in scholarly articles and they can be effective sources to learn about the latest trends and developments in the research area. Reading industry magazines can be the most enjoyable part of the literature review, assuming that your selected research area represents an area of your personal and professional interests, which should be the case anyways.

Newspapers

News papers can be referred to as the main source of up-to-date news about the latest events related to the research area. However, the proportion of the use of newspapers in literature review is recommended to be less compared to alternative sources of secondary data such as books and magazines due to the fact that newspaper articles mainly lack depth of analyses and discussions.

Online articles

The fastest-growing source of information is on the Internet. It is impossible to characterize the information available but here are some hints about using electronic sources. Bear in mind that anyone can post information on the Internet so the quality may not be reliable. You may not know that the information you find may be intended for a general audience and it may not be suitable for inclusion in your literature review. However, there are more and more refereed electronic journals (e-journals) which are appearing on the Internet - if they are refereed it means that there is an editorial board that evaluates the work before publishing it in their e-journal, so the quality should be more reliable (depending on the reputation of the journal).

While online sources are very common and easy to get, however, you should note that the levels of reliability of online articles could be highly compromised depending on the source due to the high levels of ease with which articles can be published online. Opinions offered in a wide range of online discussion blogs cannot be usually used in literature review. Similarly, dissertation assessors are not keen to appreciate references to a wide range of blogs, unless articles in these blogs are authored by respected authorities in the research area.

Journal articles

These are good especially for up-to-date information. Bear in mind, though, that it can take up to two years to publish articles. They are frequently used in literature reviews because they offer a relatively concise, up-to-date format for research, and because all reputable journals are refereed (i.e. editors publish only the most relevant and reliable research).

Theses and dissertations

These can be useful sources of information. However, there are disadvantages in the sense that they can be difficult to obtain since they are not published, but are generally only available from the library shelf or through interlibrary loan. The greatest danger is that you may be misled because the student who carried out the research may not be an experienced researcher and therefore you might have to treat their findings with more caution than published research.

Literature search strategy

Sometimes you are required to explain your search strategy for the literature used in literature review chapter. Even when you are not officially required to do so, including the explanation of the search strategy in the literature review chapter is going to boost your marks considerably. Search strategy for the literature can include the following stages:

Search terms need to be identified. For example, for a study entitled "An investigation into the impacts of management practices on the levels of employee motivation at Coca-Cola Zambia" search terms can be specified as management, management style, motivation, employee morale, leadership, satisfaction, work-life balance, and others. Your search strategy for the literature should also consider synonyms of key words. For example, above, the search term of employee motivation might be referred to elsewhere as employee morale or employee willingness.

A pool of online and offline literature need to be found according to the search term. Equipped with search terms, a vast pool of relevant literature can be generated through exploring for example Questia online library, Google Scholar and Emerald databases amongst others. Moreover, you can attend local libraries to find sources you need for your literature review.

Collected literature needs to be filtered according to credentials of authors. Due to the word limits imposed for the literature review chapter, as well as, other chapters of the dissertation, it is not possible, nor desirable to discuss all of the sources you have found in this chapter. Only the works of the most noteworthy scholars and authors need to be included in the literature review. Scholars with the highest credentials do usually publish their articles on peer-reviewed journals and respectable magazines, rather than newspapers and online blogs. You should take this into account when devising and applying your search strategy for the literature.

Remaining literature needs to be filtered according to contribution of the text to the development of the research area. Regardless of the type of the selected research area, the literature review will identify many works that have been completed by respected authorities in the area. Due to the word limitation requirement, only the most important

contributions of the research area need to be mentioned in the literature review. For example, within the research area of organizational culture such contributions can be mentioned as Harrison's Model of Culture (1972), Competing Values Framework by Cameron and Quinn (1999), Geert Hofstede's Cultural Dimensions, Trompenaars' Cultural Dimensions and others.

Types of literature reviews

There are many types of literature review and the following types of literature review are the most popular in business studies:

- a) **Narrative literature review.** This critiques the literature and summarizes the body of a literature. Narrative review also draws conclusions about the topic and identifies gaps or inconsistencies in a body of knowledge. You need to have a sufficiently focused research question to conduct a narrative literature review.
- b) **Systematic literature review.** This is a more rigorous and well-defined approach. It is usually comprehensive and is about published and unpublished studies relating to a particular subject area. You will be required to profile details the period within which the literature was selected. These details the methods used to evaluate and synthesize findings of the studies in question. These reviews will demand from you more rigorous and well-defined approach compared to most other types of literature review. Systematic literature review is comprehensive and details the timeframe within which the literature was selected. Systematic literature review can be divided into two categories: meta-analysis and meta-synthesis. When you conduct meta-analysis you take findings from several studies on the same subject and analyse these using standardized statistical procedures. In meta-analysis patterns and relationships are detected and conclusions are drawn. Meta-analysis is associated with deductive research approach. Meta-synthesis, on the other hand, is based on non-statistical techniques. This technique integrates, evaluates and interprets findings of multiple qualitative research studies. Meta-synthesis literature review is conducted usually when following inductive research approach.
- c) **Argumentative literature review.** As the name implies, examines literature selectively in order to support or refute an argument, deeply imbedded assumption, or philosophical problem already established in the literature. It should be noted that a potential for bias is a major shortcoming associated with argumentative literature review.

- d) **Critical literature review.** A critical review is the summarization and evaluation of the ideas and information in an article. It expresses the writer's (your) point of view in the light of what you already know on the subject and what is acquired from related texts. Reviewing critically means thinking carefully and clearly and taking into consideration both the strengths and weaknesses in the material under review.
- e) **Integrative literature review reviews.** This review will require you to render critiques, and synthesize secondary data about research topic in an integrated way such that new frameworks and perspectives on the topic are generated. If your research does not involve primary data collection and data analysis, then using integrative literature review will be your only option.
- f) **Theoretical literature review.** This review will demand of you to focus on a pool of theory that has accumulated about an issue, concept, theory, phenomena. Theoretical literature reviews play an instrumental role in establishing what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested.

After reading your literature review from any of the sources listed above, it should be clear to the reader that you have up-to-date awareness of the relevant work of others, and that the research question you are asking is relevant. However, do not promise too much! Be wary of saying that your research will solve a problem, or that it will change practice. It would be safer and probably more realistic to say that your research will 'address a gap', rather than that it will 'fill a gap'. Related literature should be discussed through a thematic presentation rather than as apparently unrelated papers, while simultaneously highlighting the most important sources. Themes could be arranged in such a manner that they cover all pertinent issues in relation to the set research questions. It is also vital that you evaluate each type of work cited with a view to try to show the relationships between different works, and show how the literature also relates to your work. In other words, you cannot simply give a concise description of, for example, an article: you need to select what parts of the research to discuss (e.g. the methodology or theory), show how it relates to the other work (e.g. what other methodologies have been used? How are they similar? How are they different?) and show how everything relates to your work (what is its relationship to your methodology?). In this way, you are likely to benefit more in developing your work.

High quality literature reviews usually provide insights that are relevant to the statement problem by synthesizing and organizing existing knowledge in new and unique ways, rather than, for example, using a simple chronological presentation (but this too can sometimes be appropriate). Indeed, top-quality literature reviews, or state-of-the-art papers, can stand on their own as publications. How exactly you organize the body of

your thesis writing depends upon the logic of your progression of thought as well as your own preferences.

When deciding upon which pre-established theory to include in your thesis writing, note that not all researchers will be familiar with your theories unless they are quite famous. Do not present multiple pages of mathematical proofs or the like, and do not forget to summarize even semi-well known theories. Original theory is best, for it nearly always guarantees that you will write with both thoroughness and passion. Thesis writing has no place for cliff-hangers: be clear about what you are claiming so that your readers can keep it in mind as they peruse your work. Ideally, you may organise your literature review by trying to answer the following questions:

- a. What do I already know in the immediate area concerned and what am I looking for?
- b. What are the characteristics of the key concepts or the main factors or variables?
- c. What are the relationships between these key concepts, factors or variables?
- d. What are the existing theories (if you doing deductive or nomothetic inquiry)?
- e. Has anyone else done anything similar and if so, where are the inconsistencies or other shortcomings in our knowledge and understanding of this topic?
- f. What views need to be (further) tested?
- g. What evidence is lacking, inconclusive, contradictory or too limited?
- h. What research designs or methods seem unsatisfactory?
- i. How might your research add to this understanding, or challenge existing theories, beliefs and methods?

In attempting to answer the above questions, you are actually meeting the below listed major purposes of a literature search:

- a. To search for investigations similar to the one you are contemplating and get some information for your study.
- b. To search for an established theoretical framework for your study
- c. To clarify your research idea
- d. To operationalise your variables or clearly define your terms in case of nomothetic or pragmatic studies.
- e. To locate and learn from similar study designs
- f. To identify useful research instruments
- g. To identify authorities or significant personalities
- h. To locate data sources
- i. To define historical or associational perspectives
- j. To determine appropriate outcome variables.

Writing the Review

We want to share with you from the outset that writing the literature review is an arduous task. You get started once you have identified your credible, up-to-date, accurate information sources. You will need to start building up a picture of your subject area and the research that has been done on it. You will have searched a range of sources, print and electronic, to build a full picture. Start grouping information together into different areas of your research topic. Make notes, identify themes, but you should continually exercise critical analysis on the documents you are using.

The different sub-topics you have identified can then form the basis of your literature review. You should describe your subject, demonstrate your understanding, state what research has been done and how it will affect upon your own research. You should use quotes from other authors as required, but you should not rely on them. Your work should be fully referenced in order to avoid plagiarism, for more information on this.

Remember that writing a literature review is a creative activity "An imaginative approach to searching and reviewing the literature includes having a broad view of the topic. You have be open to new ideas, methods, and arguments; 'playing' with different ideas to see whether you can make new linkages; and following ideas to see where they might lead."

When time write the literature review, make note of all the relevant theories and concepts that you would like to discuss in your literature review. Draft the literature review with your arguments, making sure that your facts follow logically. You can present the data chronologically, if you are highlighting the emergence of a problem or topic, or start with theoretical literature and move to methodological literature. The aim here is to evolve the reader's interest in the subject.

After your rough draft is ready, read the draft with a fresh mind, so that you can find out your typo and grammatical mistakes. Proofread all the facts and concepts you have explain and keep a note of all the sources from where you have collected the data. We suggest that your literature review chapter for your proposal should be structured around the following themes:

- 1) Your literature review should begin with an introduction. This is a brief description of your research area. It gives you the opportunity to define your research area, highlighting any areas that you have excluded, and the reasons for doing so. We suggest that you can download any systematic review paper and see how authors approach the review.
- 2) Following the introduction, you will have the main body of your literature review, which will form the bulk of your work. The body will have themes addressing:
 - (a) Evidence and gaps covering each research question.
 - (b) On theories used in previous studies related to the topic at hand.

- (c) Research designs and methods used in previous studies.
- (d) Measurement of concepts as shown in previous studies.
- (e) You will then present your conclusions; these should not present any new information, but should summarise your findings and, hopefully, justify your choice of research topic.

We have come to the end of the unit and now attend to the following.

Activity 4



- 1) Discuss at least three roles of literature review in a research project.
- 2) What are the sources of literature?
- 3) Of the types of literature reviews that we have discussed, which one is closer to your heart and justify.

Summary 4



A literature review is what it says it is, it is a comprehensive review of the literature available for any given research question. It is actually a summary, analysis and evaluation of the literature and an explanation of what research has already been performed for a research area as well as gaps. A literature review has several functions. Firstly, it gives you the opportunity to show what research has already been done on any given subject. As part of this overview, you may also be able to highlight areas, which relate to the subject in hand, but may not have had as much research carried out upon them. This can help with the justification for your research proposal. If a great deal of research into a subject has already been published, you may need to revise your research proposal. If you are planning research, you need to find an area where further research would be useful. A literature review will help you identify such an area.

5.0 Unit Five - Sampling

5.1 Unit Five Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Explain the importance of sampling in research.
- 2) Outline sampling techniques, which are appropriate in a qualitative as well as a quantitative design.
- 3) Describe the theoretical basis of probability and non-probability sampling.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Did you ever think that resources are critical in determining sample size in a qualitative project?
- 2) Would sample size estimation be required in any research project?
- 3) Think around these questions and see what they take.

Sampling



In this unit, we are going to devote some time to discuss sampling. All researchers come to a point when they have to collect data and they have to determine the units of analysis to be studied or who will provide the data they need. You will be in such a position and as such you require to pay so much attention to this unit.

Once the research question and the research design have been finalised, it is important to select the appropriate sample for the study. The method by which the researcher selects the sample is the 'Sampling Method'. The sampling method will depend on the research question. For instance, the researcher may want to understand an issue in greater detail for one particular population rather than worry about the 'generalisability' of these results. In such a scenario, the researcher may want to use 'non random sampling'²³⁵ for the study. If he wants to explain motivation at a place of work involving numerous units, the researcher may want to use 'random sampling'²³⁶ methods for the study.

As a researcher, you will always be faced with the challenge in the research process of determining who will provide the information needed to answer the research questions. In making such determinations, you will have to answer pertinent questions that need answers beforehand. Some of the following questions are critical:

- a) Who will be ideal to provide the required information or informant?
- b) Where will I get the informants or material to be studied?
- c) How many study units or sample elements or informants would I need to answer the research questions?

To get started, let us take this imaginary scenario. Assume that you are one of the very curious students around campus. You are concerned that there is a lot of talk about the risky sexual behaviour among gay college students at the University of Zambia IDE. You are concerned of two things: (i) You want to get the facts from the insiders' point of view (the gay) and (ii) you want to know what all the students at this college think about the sexual behaviour of gay students. You know that gay students are very few and hard to reach but you have a list of all college students and their room numbers.

I am sure that this will not be a problem for you. You are already enough of a research expert. A few friends come to suggest that you use questionnaires. Others choose in-depth interviews and others suggest focus group discussions. You look back at the draft you have and after all that preliminary work, you are faced with the most important questions: What should I do with these proposals? Whom will I ask to complete the questionnaire or to invite for the in-depth interviews or focus group discussions? Should I get all the 9 000 students? Do I just pick an average student? Do I need only gay students and if I do how will, I get them? How about asking only seniors, because they

²³⁵ Non-random sampling is widely used as a case selection method in qualitative research, or for quantitative studies of a preliminary and exploratory nature where random sampling is too costly, or where it is the only feasible alternative. . However, random samples are always strongly preferred as only random samples permit statistical inference. That is, there is no way to assess the validity of results of non-random samples. This type of sampling is used mostly in idiographic qualitative research.

²³⁶ Random sampling is data collection in which every person in the population has a chance of being selected which is known in advance. Normally this is an equal chance of being selected. This type of sampling is used mostly in nomothetic quantitative research.

are supposed to know what is going on at IDE? You cannot do that because freshers and seniors may be gays as well. What should you do then? These are decisions that cannot be taken lightly. The success of the research will depend on the way you select the people who will participate in this gay study.

However, let me say this now. If one wanted to have accurate information about people or things, the best thing to do is examine every member or element of a group. However, this is not possible. In most projects, we cannot involve all of the people we might like to involve. This is because data collection costs money and time. Therefore, from the population, we need to determine a sample to work with. Sample-size determination is often an important step in planning any study—and it is usually a difficult one. If we decide to have a very large sample, time money and talent will be wasted since information is saturated at some point and we do not need to have any more. Conversely, if we decided to have just a small sample, we would be wasting time money, talent because inadequate information will be obtained that will be inconclusive, and it will certainly raise questions of credibility later on.

When sampling, we make a distinction between the theoretical population of interest to our study and the final sample that we actually measure in our study. Therefore, what we have to do is get a portion of the population for study or sample. Not only time, money and talent are the only reasons we have to sample our population, there are other reasons. It may happen that not all units²³⁷ in the population are identifiable in the sense that we may not have a comprehensive list and as such, we may not reach out to them (Bless and Higson, 1995). For instance, this may be true if we wanted to find out about the rates clients are charged by sex workers in Lusaka. Therefore, to measure the rates charged by sex workers in Lusaka, you just have to take a sample of them. In addition, even if all those sex workers in Lusaka could be identified, it would be too expensive and too time consuming to measure the rates charged. We may not have the time too to get at every one of the sex workers. At times, we may not have the money to include all possible study elements. Nonetheless, even if we may not get to everyone, it is possible to examine a portion of the population and arrive at accurate conclusions. How will you know if you “do the job right?” To understand sampling, you first need to distinguish between two general sampling strategies: probability and nonprobability. With probability sampling, the likelihood of any one member of the population being selected is known. If there are 9 000 students in all the high schools, and if there are 1,000 seniors, then the odds of selecting one senior as part of the sample is 1,000:4,500 or 0.22.

Nonprobability sampling is where the likelihood of selecting any one member from the population is not known. For example, if you do not know how many children are enrolled

²³⁷ Usually the term “units” refers to the things that we sample and from whom or where we gather information. Nevertheless, for some research projects the units are organizations, groups, or geographical entities like cities or towns.

in the district's high schools, then the likelihood of any one being selected cannot be computed.

This chapter suggests a number of sampling issues to consider in designing a study it further points to some of the strengths and weaknesses of various types of sampling techniques. However, this book is not intended to be a primer on sampling strategies, which is a complex subject. For this, the reader should explore some of the suggested readings in the bibliography. Ideally, sampling is the process of collecting the set of research participants who will provide the data for a research project from a given population. We are going to look at random sampling when researchers intend to conduct quantitative research especially nomothetic research and non-random sampling when qualitative researchers want to embark on idiographic research.

Key Concepts and Terms

Population: The population must be defined explicitly before a sample is taken. Population refers to the target population or group of individuals of interest for study to which findings are to be generalized. Often, the primary objective is to estimate certain characteristics of this population, called population values.

A sample. This is a subset of the population that is selected for the study. A sampling unit is an element or an individual in the target population.

Sampling frame. In order to select a sample according to your sample design, you need to have a list of sampling units in the population. The sampling frame is a major determinant of the extent to which a sample is representative of the population under study. In essence, a frame is any list, material or device that delimits, identifies, and allows access to the elements of the survey population. We can say that a frame is perfect "if every element appears on the list separately, once, only once and nothing else appears on the list" (Kish 1965: 53). All the elements included in the frame constitute the frame population. The sampling frame is the list of ultimate sampling entities, which may be people, households, organizations, or other units of analysis. Sampling frames are of two general types:

1. In form of lists, such as electoral registers or the membership of an organization; a list of registered students may be the sampling frame for a survey of the student body at a university or a telephone directory. Problems can arise in sampling frame bias. Telephone directories for instance are often used as sampling frames, but tend to under-represent the poor (who have fewer or no phones) and the wealthy (who have unlisted numbers). Random digit dialling (RDD) reaches unlisted numbers but not those with no phones, while over representing households owning multiple phones. In multi-stage sampling, discussed below, there will be one sampling frame per stage (ex. a list of the 50 states, lists of Census tracts for

sampled states, lists of Census blocks for sampled tracts, and finally a list or residences for sample blocks).

2. Area frames that may occur as sets of locations on maps (such as townships or rural communities). In most cases, the sampling frame is imperfect: it has missing elements, inappropriate listings, or duplications.

Researchers conducting studies may have no up-to-date or accurate lists of community members or households for designing a household sample of the community. The best frames available may be lists of school students, utility customers, and members of local organizations. However, each of these lists will have built-in biases or missing elements that may be significant enough to make it unsuitable for sampling the community as a whole. If no adequate map is available to show locations of houses, the researchers may have to make their own sketch map or see if there are any air photos that they can use as the basis for one (with field checking to update it).

- **Enumerations or censuses** are collections of data from every person or entity in the population.
- Strata or clusters are subdivisions of populations that are naturally divided into a number of non-overlapping subpopulations. For example, national or city populations are divided into male and female, and geographically into urban rural, high medium or low residential areas. Generally, the population is divided into strata, each consisting of individuals so that the population size equals.
- **The sampling frame** is the list of ultimate sampling entities or units, which may be people, households, organizations, or other units of analysis. The list of registered students may be the sampling frame for a survey of the student body at a university.

Quantitative Nomothetic Research Sampling – Random sampling

Nomothetic researchers want to learn by trying to explain something about social regularities from a theory or principle some law if phenomena apply to people in general. Nomothetic research attempts to discover what those theoretical assumptions or systems of laws or principles are (Burrell and Morgan, 1979; Flood and Jackson, 1991). Since it is interested in discovering the laws or principles that govern aspects of reality, nomothetic research cannot depend on information that describes a single individual. It needs information that describes enough cases or many cases and these could be hundreds or thousands so that general patterns or relationships can be seen. It is not concerned for example with getting the facts from the insiders point of view (the gay) but “all the students at Chainama College of Health Sciences” think about the sexual behaviour of

gay students. This therefore calls for the researcher to begin with the population of interest to have enough cases and not all cases.

Sample Size

Perhaps the most frequently asked question you will desire to solve concerns nomothetic sampling is, "What sample size do I need?" The decision about sample size is not a straightforward one at all. This is source of great anxiety to beginners in social science research. The answer to this question is influenced by a number of factors, including:

- A compromise between the constraints of time and cost.
- The purpose of the study.
- Population size, the risk of selecting a "bad" sample.
- The need to consider an allowable sampling error for purposes of precision. A sampling error is in essence the difference between the mean and sample population

You may settle the issue of these factors but you still get troubled with the sample size. What is important is not the relative size but an absolute size. There are statistically valid ways of determining an absolute sample size, depending on whether the analysis will use simple or complex statistics (Kish, 1965).

An important consideration is determining the "crucial subgroup." This is the group from which the survey must obtain enough observations to result in reasonably accurate statements, such as "sex workers who would prefer 'live sex' have higher incomes and higher education levels of HIV infection than those who use condoms." If the analysis will come from only a part of the sample, then the sample size has to be increased significantly to maintain the level of accuracy.

Sample Size Criteria

In addition to the purpose of the study and population size, three criteria usually will need to be specified to determine an absolute sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976). Each of these is reviewed below.

The Level Of Precision

When properly conducted, a probability sample of this size provides reliable information with a very small margin of error for the whole population. When determining sample size, take into account the required levels of precision needed for the survey estimates, the type of design and estimator to be used, the availability of auxiliary information,

budgetary constraints, as well as both sampling factors (e.g., clustering, stratification) and non-sampling factors (e.g., non-response, presence of out-of-scope units, attrition in longitudinal surveys). For periodic surveys, take into account expected births and deaths of units within the changing survey population. The level of precision or reasonable certainty, sometimes called sampling error, is the range in which the true value of the population is estimated to be. This range is often expressed in percentage points, (e.g., ± 5 percent) in the same way that results for political campaign polls are reported by the media. Thus, if a researcher finds that 78% of voters in the sample have voted for The Movement For Multiparty Democracy with a precision rate of $\pm 5\%$, and then he or she can conclude that between 73% and 83% of the voters in the population have a greater preference for this party.

The Confidence Level

The confidence or risk level is based on ideas encompassed under the Central Limit Theorem. The key idea encompassed in the Central Limit Theorem is that when a population is repeatedly sampled, the average value of the attribute obtained by those samples is equal to the true population value. Furthermore, the values obtained by these samples are distributed normally about the true value, with some samples having a higher value and some obtaining a lower score than the true population value. In a normal distribution, approximately 95% of the sample values are within two standard deviations of the true population value (e.g., mean).

In other words, this means that, if a 95% confidence level is selected, 95 out of 100 samples will have the true population value within the range of precision specified earlier. There is always a chance that the sample you obtain does not represent the true population value. This risk is reduced for 99% confidence levels and increased for 90% (or lower) confidence levels.

The **confidence interval** (also called margin of error) is the plus-or-minus figure usually reported in newspaper or television opinion poll results. For example, if you use a confidence interval of 4 and 47% percent of your sample picks an answer you can be "sure" that if you had asked the question of the entire relevant population between 43% ($47-4$) and 51% ($47+4$) would have picked that answer.

The **confidence level** tells you how sure you can be. It is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level means you can be 95% certain; the 99% confidence level means you can be 99% certain. Most researchers use the 95% confidence level.

When you put the confidence level and the confidence interval together, you can say that you are 95% sure that the true percentage of the population is between 43% and 51%. The wider the confidence interval you are willing to accept, the more certain you can be that the whole population answers would be within that range.

For example, if you asked a sample of 1000 people in a city which brand of cola they preferred, and 60% said Brand A, you can be very certain that between 40 and 80% of all the people in the city actually do prefer that brand, but you cannot be so sure that between 59 and 61% of the people in the city prefer the brand.

Factors that Affect Confidence Intervals

There are three factors that determine the size of the confidence interval for a given confidence level:

- Sample size
- Percentage
- Population size

Sample Size

The larger your sample size, the more sure you can be that their answers truly reflect the population. This indicates that for a given confidence level, the larger your sample size, the smaller your confidence interval. However, the relationship is not linear (i.e., doubling the sample size does not halve the confidence interval).

Strategies For Determining Sample Size

There are several approaches to determining the sample size that you can use. These include using a census for small populations, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size. Each strategy is discussed below.

Using a Census For Small Populations

One approach is to use the entire population as the sample. However, the detail of information that can be asked in a sample is greater than that in a census due to the cost and time constraints under which most researchers are operating. Although cost considerations make a census study impossible for large populations, a census is only attractive for small populations (e.g., 200 or less). A census eliminates sampling error and provides data on all the individuals in the population. In addition, some costs such as questionnaire design and developing the sampling frame are "fixed," that is, they will

be the same for samples of 50 or 200. Finally, virtually the entire population would have to be sampled in small populations to achieve a desirable level of precision.

Using A Sample Size Of A Similar Study

Another approach is to use the same sample size as those of studies similar to the one you plan. Without reviewing the procedures employed in these studies you may run the risk of repeating errors that were made in determining the sample size for another study. However, a review of the literature in your discipline can provide guidance about "typical" sample sizes that are used.

Using Published Tables

A third way to determine sample size is to rely on published tables, which provide the sample size for a given set of criteria. Table 6a and Table 6b present sample sizes that would be necessary for given combinations of precision, confidence levels, and variability. Please note two things. First, these sample sizes reflect the number of obtained responses, and not necessarily the number of surveys mailed or interviews planned (this number is often increased to compensate for non-response). Second, the sample sizes in Table 2 presume that the attributes being measured are distributed normally or nearly so. If this assumption cannot be met, then the entire population may need to be surveyed.

If you examine tables 1 and 2, you will notice that the researcher has to select a large number of sampling elements from the population when the population is small. As the population becomes bigger and bigger, the sample size becomes smaller and smaller and so does the sampling error decrease marginally. If it happens that you want to break down your population into smaller groups or categories, you will in the end have a larger number of study elements.

Table 6a Sample Size Determinations

| Sample size for $\pm 5\%$, $\pm 7\%$ and $\pm 10\%$ Precision Levels Where Confidence Level is 95% and $P = .5$. | | | |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|------------|
| Population Size | Sample Size (n) for Precision (e) of: | | |
| | $\pm 5\%$ | $\pm 7\%$ | $\pm 10\%$ |
| 100 | 81 | 67 | 51 |
| 125 | 96 | 78 | 56 |
| 150 | 110 | 86 | 61 |
| 175 | 122 | 94 | 64 |
| 200 | 134 | 101 | 67 |
| 225 | 144 | 107 | 70 |
| 250 | 154 | 112 | 72 |
| 275 | 163 | 117 | 74 |
| 300 | 172 | 121 | 76 |
| 325 | 180 | 125 | 77 |
| 350 | 187 | 129 | 78 |
| 375 | 194 | 132 | 80 |
| 400 | 201 | 135 | 81 |
| 425 | 207 | 138 | 82 |
| 450 | 212 | 140 | 82 |

Table 6b Sample Size Determinations Continued

| Sample size for $\pm 3\%$, $\pm 5\%$, $\pm 7\%$ and $\pm 10\%$ Precision Levels Where Confidence Level is 95% and $P = .5$. | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|-----------|------------|
| Population Size | Sample Size (n) for Precision (e) of: | | | |
| | $\pm 3\%$ | $\pm 5\%$ | $\pm 7\%$ | $\pm 10\%$ |
| 500 | a | 222 | 145 | 83 |
| 600 | a | 240 | 152 | 86 |
| 700 | a | 255 | 158 | 88 |
| 800 | a | 267 | 163 | 89 |
| 900 | a | 277 | 166 | 90 |
| 1,000 | a | 286 | 169 | 91 |
| 2,000 | 714 | 333 | 185 | 95 |
| 3,000 | 811 | 353 | 191 | 97 |
| 4,000 | 870 | 364 | 194 | 98 |
| 5,000 | 909 | 370 | 196 | 98 |
| 6,000 | 938 | 375 | 197 | 98 |
| 7,000 | 959 | 378 | 198 | 99 |
| 8,000 | 976 | 381 | 199 | 99 |
| 9,000 | 989 | 383 | 200 | 99 |
| 10,000 | 1,000 | 385 | 200 | 99 |
| 15,000 | 1,034 | 390 | 201 | 99 |
| 20,000 | 1,053 | 392 | 204 | 100 |
| 25,000 | 1,064 | 394 | 204 | 100 |
| 50,000 | 1,087 | 397 | 204 | 100 |
| 100,000 | 1,099 | 398 | 204 | 100 |
| >100,000 | 1,111 | 400 | 204 | 100 |
| a = Assumption of normal population at $\pm 3\%$ is poor (Yamane, 1967). The entire population should be sampled. | | | | |

Using Formulas to Calculate a Sample Size

Although tables can provide a useful guide for determining the sample size, you may need to calculate the necessary sample size for a different combination of levels of precision, confidence, and variability.

First, know the size of the population with which you are dealing. If your population is small (100 people or less), it may be preferable to do a census of everyone in the population, rather than a sample. However, if the population from which you want to gather information is larger, it makes sense to do a sample.

Second, determine the desired precision of results. The level of precision is the closeness with which the sample predicts where the true values in the population lie. The difference between the sample and the real population is called the sampling error. If the sampling error is $\pm 5\%$, this means we add or subtract 5 percentage points from the value in the survey to find out the actual value in the population. For example, if the value in a survey says that 85% of teachers use dictation and the sampling error is $\pm 5\%$, we know that in the real-world population, between 80% and 90% are likely to use this pesticide. This range is also commonly referred to as the margin of error. The level of precision you accept depends on balancing accuracy and resources. High levels of precision require larger sample sizes and higher costs to achieve those samples, but high margins of error can leave you with results that aren't a whole lot more meaningful than human estimation. Tables 6.1 and 6.2 above provide sample sizes for precision levels of 7%, 5% and 3%.

Third, determine the Confidence Level. The confidence level involves the risk you're willing to accept that your sample is within the average or "bell curve" of the population. A confidence level of 95% means that, were the population sampled 100 times in the same manner, 95 of these samples would have the true population value within the range of precision specified earlier, and 5 would be unrepresentative samples. This level is standard for most social-science applications, though higher levels can be used. If the confidence level that is chosen is too low, results will be "statistically insignificant".

Fourth, estimate the Degree of Variability. Variability is the degree to which the attributes or concepts being measured in the questions are distributed throughout the population. A heterogeneous population, divided more or less 50%-50% on an attribute or a concept, will be harder to measure precisely than a homogeneous population, divided say 80%-20%. Therefore, the higher the degree of variability you expect the distribution of a concept to be in your target audience, the larger the sample size must be to obtain the same level of precision. To come up with an estimate of variability, simply take a reasonable guess of the size of the smaller attribute or concept you're trying to measure, rounding up if necessary. If you estimate that 25% of the population in your county farms

organically and 75% does not, then your variability would be 0.25 (which rounds up to 30% on the table provided at the end of this Tipsheet). If variability is too difficult to estimate, it is best to use the conservative figure of 50%. Note: when the population is extremely heterogeneous (i.e., greater than 90-10), a larger sample may be needed for an accurate result, because the population with the minority attribute is so low. At this point, using the level of precision and estimate of variability you have selected, you can use either the table or the equation provided at the bottom of this Tip sheet to determine the base sample size for your project.

Six, estimate the Response Rate. The base sample size is the number of responses you must get back when you conduct your survey. However, since not everyone will respond, you will need to increase your sample size, and perhaps the number of contacts you attempt to account for these non-responses. To estimate response rate that you are likely to get, you should take into consideration the method of your survey and the population involved. When you have come up with an estimate of the percentage you expect to respond, then divide the base sample size by the percentage of response. For example, if you estimated a response rate of 70% and had a base sample size of 220, then your final sample size would be 315 (220/0.7). Once you have this, you are ready to begin your sampling!

(Equation 1 below was used to calculate sample sizes in Table 6.1).

$$n = \frac{N}{1 + N(e)^2}$$

Formula for Calculating A Sample For Proportions

For populations that are large, Cochran (1963:75) developed the Equation 1 to yield a representative sample for proportions.

$$n_0 = \frac{Z^2 pq}{e^2}$$

Which is valid where n_0 is the sample size, Z_2 is the abscissa of the normal curve that cuts off an area at the tails ($1 - \text{equals the desired confidence level, e.g., 95\%}$), e is the desired level of precision, p is the estimated proportion of an attribute that is present in the population, and q is $1-p$. The value for Z is found in statistical tables, which contain the area under the normal curve.

To illustrate, suppose we wish to evaluate a state-wide extension program in which farmers were encouraged to adopt a new practice. Assume there is a large population but that we do not know the variability in the proportion that will adopt the practice; therefore, assume $p = .5$ (maximum variability). Furthermore, suppose we desire a 95% confidence level and $\pm 5\%$ precision. The resulting sample size is demonstrated in Equation 2.

$$n_o = \frac{Z^2 pq}{e^2} = \frac{1.96^2 (.5)(.5)}{(0.05)^2} = 385 \text{ farmers}$$

Finite Population Correction for Proportions

If the population is small then the sample size can be reduced slightly. This is because a given sample size provides proportionately more information for a small population than for a large population. The sample size (n_o) can be adjusted using Equation 3.

$$n = \frac{n_o}{1 + \frac{n_o - 1}{N}}$$

Where n is the sample size and N is the population size.

Suppose our evaluation of farmers' adoption of the new practice only affected 2,000 farmers. The sample size that would now be necessary is shown in Equation 4.

$$n = \frac{n_o}{1 + \frac{n_o - 1}{N}} = \frac{385}{1 + \frac{(385 - 1)}{2000}} = 323 \text{ farmers}$$

As you can see, this adjustment (called the finite population correction) can substantially reduce the necessary sample size for small populations.

A Simplified Formula For Proportions

Yamane (1967:886) provides a simplified formula to calculate sample sizes. This formula was used to calculate the sample sizes in Tables 2 and 3 and is shown below. A 95% confidence level and $P = .5$ are assumed for Equation 5.

$$n = \frac{N}{1 + N(e^2)}$$

Where n is the sample size, N is the population size, and e is the level of precision. When this formula is applied to the above sample, we get Equation 6.

$$n_o = \frac{N}{1 + N(e^2)} = \frac{2000}{1 + 2000(0.05^2)} = 333$$

farmers

Formula for Sample Size For The Mean

The use of tables and formulas to determine sample size in the above discussion employed proportions that assume a dichotomous response for the attributes being measured. There are two methods to determine sample size for variables that are polytomous or continuous. One method is to combine responses into two categories and then use a sample size based on proportion (Smith, 1983). The second method is to use the formula for the sample size for the mean. The formula of the sample size for the mean is similar to that of the proportion, except for the measure of variability. The formula for the mean employs σ^2 instead of $(p \times q)$, as shown in Equation 7.

$$n_o = \frac{Z^2 \sigma^2}{e^2}$$

Where n_o is the sample size, Z is the abscissa of the normal curve that cuts off an area at the tails, e is the desired level of precision (in the same unit of measure as the variance), and σ^2 is the variance of an attribute in the population.

The disadvantage of the sample size based on the mean is that a "good" estimate of the population variance is necessary. Often, an estimate is not available. Furthermore, the sample size can vary widely from one attribute to another because each is likely to have a different variance. Because of these problems, the sample size for the proportion is frequently preferred.

Other Considerations

In completing this discussion of determining sample size, there are three additional issues. First, the above approaches to determining sample size have assumed that a simple random sample is the sampling design. More complex designs, e.g., stratified

random samples, must take into account the variances of subpopulations, strata, or clusters before an estimate of the variability in the population as a whole can be made.

Another consideration with sample size is the number needed for the data analysis. If descriptive statistics are to be used, e.g., mean, frequencies, and then nearly any sample size will suffice. On the other hand, a good size sample, e.g., 200-500, is needed for multiple regression, analysis of covariance, or log-linear analysis, which might be performed for more rigorous state impact evaluations. The sample size should be appropriate for the analysis that is planned.

In addition, an adjustment in the sample size may be needed to accommodate a comparative analysis of subgroups (e.g., such as an evaluation of program participants with non-participants). Sudman (1976) suggests that a minimum of 100 elements is needed for each major group or subgroup in the sample and for each minor subgroup, a sample of 20 to 50 elements is necessary. Similarly, Kish (1965) says that 30 to 200 elements are sufficient when the attribute is present 20 to 80 percent of the time (i.e., the distribution approaches normality). On the other hand, skewed distributions can result in serious departures from normality even for moderate size samples (Kish, 1965:17). Then a larger sample or a census is required.

Finally, the sample size formulas provide the number of responses that need to be obtained. Many researchers commonly add 10% to the sample size to compensate for persons that the researcher is unable to contact. The sample size also is often increased by 30% to compensate for non-response. Thus, the number of mailed surveys or planned interviews can be substantially larger than the number required for a desired level of confidence and precision.

Types of Probability Sampling

In an ideal world, most studies would aim to obtain random probability samples, in which every element (person, household, or event) has a known, nonzero probability of being selected. A probability sampling method is any method of sampling that utilizes some form of random selection. Probability sampling is used to select a sample from the survey population. The intention is to gather useful information from the sampled units to allow inferences about the survey population. This type of sampling implies a probabilistic selection of units from the frame in such a way that all survey population units have known and positive inclusion probabilities. Sample size is determined by the required precision and available budget for observing the selected units. The probability distribution that governs the sample selection, along with the stages and units of sampling, the stratification, and so on, are collectively called the sampling design or sample design.

In order to have a random selection method, you must set up some process or procedure that assures that the different units in your population have equal probabilities of being chosen. Most statistical inferences about means and variances and regression coefficients are based on the assumption that the sample is a simple random sample. There are several types of random sampling, each of which affects how significance is computed.

Simple Random Sampling

The most common type of probability sampling procedure is simple random sampling. Simple random sampling is a probability sampling procedure that gives every element in the target population, and each possible sample of a given size, an equal chance of being selected. As such, it is an equal probability selection method (EPSEM). Here, each member of the population has an equal- and independent chance of being selected to be part of the sample. Equal and independent are the key words here, equal because there is no bias that one person will be chosen rather than another and independent because the choice of one person does not bias the researcher for or against the choice of another. When sampling randomly, the characteristics of the sample should be very close to that of the population.

For example, would it be simple random sampling if you were to choose every fifth name from the phone book? No, because both the criteria of equal and independent are being violated. If you begin with name 5 on page 234 of the phone book, then names 1, 2, 3, and 4 never had an equal chance of being selected, so this example fails the test of independence. Second, if you chose name 5 on the list and then every fifth name from there on, only names 10, 15, 20, and so on have any chance of being selected. Once again, it is a failure of independence that does not make this a truly random process.

The process of simple random sampling consists of the following six steps:

- 1) The definition of the population from which you want to select the sample.
- 2) Identify an existing sampling frame of the target population or develop a new one.
- 3) Assign a unique number to each member of the population.
- 4) Evaluate the sampling frame for undercoverage, over coverage, multiple coverage, and clustering, and make adjustments where necessary.
- 5) Determine the sample size.
- 6) Randomly select the targeted number of population elements.

Three techniques are selected in fulfilling Step 6 and these are: the lottery method, a table of random numbers, and randomly generated numbers using a computer program (i.e., random number generator). In using the lottery method (also referred to as the "blind draw method" and the "hat model"), the numbers representing each element in

the target population are placed on chips (i.e., cards, paper, or some other objects). The chips are then placed in a container and thoroughly mixed. Next, blindly select chips from the container until the desired sample size has been obtained. Disadvantages of this method of selecting the sample are that it is time-consuming, and is limited to small populations.

A table of random numbers may also be used. The numbers in a table of random numbers are not arranged in any particular pattern. They may be read in any manner, i.e., horizontally, vertically, diagonally, forward, or backward. In using a table of random numbers, the researcher should blindly select a starting point and then systematically proceed down (or up) the columns of numbers in the table. The number of digits that are used should correspond to the total size of the target population. Every element whose assigned number matches a number the researcher comes across is selected for the sample. Numbers the researcher comes across that do not match the numbers assigned the elements in the target population are ignored. As in using the lottery method, using a table of random numbers is a tedious, time-consuming process, and is not recommended for large populations. Instead, statistical software should be used for large populations. Most statistical software and spread sheet software have routines for generating random numbers. Elements of the populations whose assigned numbers match the numbers generated by the software are included in the sample. One may select a number from a table of random numbers for use as the starting number for the process.

Equal Probability Systematic Sampling

Systematic sampling - Systematic sampling is a statistical method involving the selection of elements from an ordered sampling frame. The first element is chosen at random and subsequent elements are chosen using a fixed interval say 'k' (e.g., every tenth element) until you reach the desired sample size. The researcher must ensure that the chosen sampling interval does not hide a pattern. Any pattern would threaten randomness. In this sampling, every k^{th} name on the list is chosen. The term k^{th} stands for a number between 0 and the size of the sample that you want to select. For example, here is how to use systematic sampling to select 10 names from the list of 50 (although these steps apply to any size population and sample) shown in Table 6

Table 7. Sampling frame of German names

| | | | | |
|-------------|---------------|------------------|-------------|-------------|
| 1. Beike | 2. Frey | 1. Klinsman | 2. Hahn | 3. Kohler |
| 3. Berg | 4. Freitag | 4. Ebersbach | 5. Herman | 6. Koenig |
| 5. Bergmann | 6. Freud | 7. Eberhardt | 8. Hertz | 9. Krause |
| 7. Bieber | 8. Fried | 10. Eichel | 11. Hertzog | 12. Krueger |
| 9. Biermann | 10. Friedmann | 13. Eichelberger | 14. Himmel | 15. Kuefer |
| 11. Blau | 12. Frueh | 16. Eichmann | 17. Hirsch | 18. Kuester |

| | | | | |
|------------|--------------|----------------|--------------|------------|
| 13. Boehm | 14. Fruehauf | 19.Ehrlichmann | 20.Hoch | 21.Kuhn |
| 15. Brandt | 16. Fuchs | 22.Eiffel | 23.Hoffmann | 24.Koertig |
| 17. Brauer | 18. Bierhoff | 25.Eisenberg | 26.Holtzmann | 27.Kohler |
| 19. Braun | 20. Ballack | 28.Eisenhauer | 29.Hueber | 30.Koenig |

To do this, follow these steps:

- Divide the size of the population by the size of the desired sample. In this case, 100 divided by 10 is 10. Therefore, you will select every fifth name from the list. In other words

$$\frac{\text{Size of the population}}{\text{Size of sample}} = \frac{100}{10} = 10 \quad \text{Size of the step}$$

- As the starting point, choose one name from the list at random. Do this by the "eyes closed, pointing method" or, if the names are numbered, use any digits as the starting point.
- Once the starting point has been determined, select every n^{th} name.

Systematic sampling is easier and less trouble than random sampling, and that is one reason why it is often preferred. It is also less precise. Clearly, the assumption of each member of the population having an equal chance to be selected is violated.

Systematic Sampling and simple random sampling differ in the sense that in the latter the selections are independent from each other. In the former, selection is dependent on the selection of a previous one. The population units are specially prepared and the sample units are selected in systematic way by means of various techniques of which the sampling fraction technique method is the most common. The researcher starts at a random point and selects every n^{th} subject in the sampling frame. The random starting point equals the sampling interval, n , times a random number between 0 and 1, plus 1, rounded down. In systematic sampling, there is the danger of order bias: the sampling frame list may arrange subjects in a pattern, and if the periodicity of systematic sampling matches the periodicity of that pattern, the result may be the systematic over - or under-representation of some stratum of the population. If, however, it can be assumed that the sampling frame list is randomly ordered, systematic sampling is mathematically equivalent to and equally precise as simple random sampling. If the list is stratified (ex. all females listed, then all males), systematic sampling is mathematically equivalent to stratified sampling and is more precise than simple random sampling.

Repeated Systematic²³⁸ Sampling

²³⁸ Systematic sampling reduces the chance of certain participants be selected, therefore, it less unbiased than simi random sampling.

This is a variant that seeks to avoid the possibility of systematic biases due to periodicity in the sampling frame. This is done by taking several smaller systematic samples, each with a different random starting point, rather than using one pass through the data as in ordinary systematic sampling. Repeated systematic sample has the side benefit that the variability in the sub sample means for a given variable is a measure of the variance of that estimate in the entire sample.

Stratified²³⁹ Simple Random Sampling

The two types of random sampling that were just discussed work fine if specific characteristics of the population (such as age, gender, ethnicity, ability group) are of no concern. In other words, if another set of 10 names were selected, one would assume that because both groups were chosen at random, they are, in effect, equal. But what if the individuals in the population are not “equal” to begin with? In that case, you need to ensure that the profile of the sample matches the profile of the population, and this is done by creating what is referred to as stratified sampling.

The theory behind sampling (and the entire process of inference) goes something like this: If you can select a sample that is as close as possible to being representative of a population, then any observations you can make regarding that sample should also hold true for the population. So far so good. Sometimes, though, random sampling leaves too much to chance, especially if you have no assurance of equal distributions of population members throughout the sample and, most important, if the factors that distinguish population members from one another (such as race, gender, social class, or degree of intelligence) are related to what you are studying. This is a very important point. In that case, stratified sampling is used to ensure that the strata (or layers) in the population are fairly represented in the sample (which ends up being layered as well, right?).

For example, if the population is 82% Methodists, 14% Catholics, and 4% Jews, then the sample should have the same characteristics if religion is an important variable in the first place. Understanding the last part of the preceding sentence is critical. If a specified characteristic of the population is not related to what is being studied, then there is no reason to be concerned about creating a sample patterned after the population and stratifying on one of those variables. Let us assume that the list of names in Table 7 represents a stratified population (females and males), and attitudes toward abortion is the topic of study. Because gender differences may be important, you want a sample that reflects gender differences in the population. The list of 50 names consists of 20 females and 30 males, or 40% female and 60% male. The sample of 10 should mirror that distribution and contain 4 females and 6 males. Here is how you would select such a sample using stratified random sampling. Once again, the example is the population we created, but these steps apply to all circumstances.

²³⁹ Strata are like different layers, representing different characteristics

1. All the males and all the females are listed separately.
2. Each member in each group receives a number. In this case, the males would be numbered 01 through 30 and the females 01 through 20.
3. From a table of random numbers, 4 females are selected at random from the list of 20 using the procedures outlined earlier.
4. From a table of random numbers, 6 males are selected at random from the list of 30 using the procedures outlined earlier.

Although simple examples (with only one stratum or layer) such as this often occur, also you may have to stratify on more than one variable. For example, in Figure 1, a population of 10,000 children is stratified on the variables of grade (40% first grade, 40%

Stratified random sampling is a special form of simple or systematic sampling and at times it is called proportional or quota random sampling. The target population is first separated into mutually exclusive, homogeneous segments (strata), and then a simple random sample is selected from each segment (stratum). The samples selected from the various strata are then combined into a single sample. This sampling procedure is sometimes referred to as "quota random sampling."

Stratification consists of dividing the population into homogeneous subgroups or subsets (called strata) within each of which an independent sample is selected. The choice of strata is determined based on the objective of the survey, the distribution characteristics of the variable of interest, and the desired precision of the estimates. The division of the strata may take the form of: age, sex economic status etc., is based on more than one criterion. There are several major reasons why you might prefer stratified sampling over simple random sampling. First, it assures that you will be able to represent not only the overall population, but also key subgroups of the population, especially small minority groups. If you want to be able to talk about subgroups, this may be the only way to effectively assure you will be able to. If the subgroup is extremely small, you can use different sampling fractions (f) within the different strata to randomly over-sample the small group (although you will then have to weigh the within-group estimates using the sampling fraction whenever you want overall population estimates). When we use different sampling fractions in the strata, we call this disproportionate stratified random sampling. Second, stratified random sampling will generally have more statistical precision than simple random sampling. This will only be true if the strata or groups are homogeneous. If they are, we expect that the variability within-groups is lower than the variability for the population as a whole.

Multi-Stage or Cluster Sampling

Multi-Stage or Cluster Sampling is used when a sampling frame is not known. The researcher divides the population into elements of clusters. He in turn samples the

clusters, and then stratifies the samples. This is followed by re sampling, repeating the process until the ultimate sampling units are selected at the last of the hierarchical levels of clusters. When the strata are geographic units, this method is sometimes called area sampling. For instance, at the top level, states may be sampled (with sampling proportionate to state population size); then cities may be sampled; then schools; then classes; and finally students. Probability proportional to size sampling (pps) is a related variant in which each of the hierarchical levels prior to the ultimate level is sampled according to the number of ultimate units (example: people or households) it contains.

Technically, cluster sampling is where all subjects at the lowest hierarchical level (example: all students in a school) are sampled for each primary sampling unit (PSU's, which are the second-lowest hierarchical level, such as schools or Census blocks), whereas multistage sampling is where only a random sample of lowest hierarchical level subjects are selected. The greater the heterogeneity of the strata and the finer the stratification (that is, the smaller the clusters involved) depending on the topic of study, the more the precision of the results. For instance, stratifying by gender at the highest level might well introduce bias in measuring opinions about an item known to be gender-related, whereas stratifying by state would be less likely to introduce a bias since there are more categories (more states than genders) and there is less likely to be a correlation with the opinion item. At each stage, stratified sampling is used to further increase precision.

Warnings on Use of Cluster Sampled Data

Clustering will produce correlated observations, which violates the assumption of independently sampled cases - an assumption of many statistical techniques. Multi-level modelling is an example of a technique, which is appropriate for clustered samples (see Goldstein, 1995). Nonetheless, it should be noted that it is common practice to treat data from cluster sampling as if it were randomly sampled data.

Overall, multi-stage or cluster sampling is usually less precise than simple random sampling, which in turn is less precise than one-stage stratified sampling. Warning: Since multistage sampling is the most prevalent form for large, national surveys, and since most computer programs use standard error algorithms based on the assumption of simple random samples, the standard errors reported in the literature often underestimate sampling error.

What Are the Subtypes of Simple Random Sampling?

There are two types of simple random sampling: sampling with replacement and sampling without replacement. In sampling with replacement, after an element has been selected

from the sampling frame, it is returned to the frame and is eligible to be selected again. In sampling without replacement, after an element is selected from the sampling frame, it is removed from the population and is not returned to the sampling frame. Sampling without replacement tends to be more efficient than sampling with replacement in producing representative samples. It does not allow the same population element to enter the sample more than once. Sampling without replacement is more common than sampling with replacement. It is the type that is the subject of this text.

Idiographic Qualitative Research Sampling

Now that we have had an opportunity to understand probability sampling in nomothetic methodology, we turn to ideographic methodology and its sampling techniques. However, many studies — probably most of those undertaken in African communities — do not obtain probability samples in the sense that they are idiographic in nature. The idiographic (qualitative) approach concentrates on the descriptive and interpretative—sensing and understanding—characteristics of the examined reality. The subject of the study is phenomena that, by their very nature, do not easily submit to generalization. It is for this reason that the researcher focuses on an exhaustive description and an understanding of individual phenomena, their singularity and uniqueness, inclusive of an attempt at grasping and explaining those external events that might mould or qualitatively change the phenomena. Such study is of an individual character and does not need the determination of a representative sample as in nomothetic research. Of necessity and practicality, idiographic researchers adopt other sampling strategies to achieve acceptable accuracy at an acceptable cost and these can also be part of a good research design.

In idiographic research that is predominantly qualitative, samples are not treated in the manner a nomothetic researcher does and this is because the epistemologies and ontologies are different. The main stay in pure idiographic research is non random sampling. Non-random sampling is widely used as a case selection method in idiographic research of a preliminary and exploratory nature where random sampling is too costly, or where it is the only feasible alternative.

There are two reasons as to why we use non-probability sampling schemes and these are:

- We can't use the mathematics of probability to analyse the results.
- In general, we can't count on a non-probability sampling scheme to produce representative samples.

Since idiographic sampling is qualitative in nature and data sources are usually spatially and temporarily non-independent and they have population distributions that are non-normal and are generally unknown (non pre-specifiable), this type of sampling is necessary (Miles and Huberman, 1994; Mannion and Cohen, 1997; Neuman, 2000) when

probability sampling would not be appropriate. Idiographic sampling is suited to study one case or small samples. In qualitative studies, one case or small samples are ideal given that from them rich, copious, intensive and lengthy amounts of data may emerge. The focus here is not presenting quantitative issues but outlining qualitative issues (Fielding, 1993). Having said so, we can then examine the various types of idiographic sampling techniques.

Purposive Sampling or Judgemental Sampling

This is a common nonprobability method of sampling used in qualitative research and it is usually an extension of convenience sampling. Purposive sampling allows the researcher to choose specific participants, who fulfill the interest of the research (Silverman, 2004). The researcher may consider using this technique when the desired population for the study is rare or very difficult to locate and recruit for a study. Because there are many objectives that qualitative researchers might have, the list of “purposive” strategies that you might follow is virtually endless, and any given list will reflect only the range of situations the author of that list has considered. For example, you are interested in studying Christian parents in your church who once had a child who aborted and you would want to present their experiences on challenges they had faced negotiating abstinence with their children in the first place. This would be a difficult population to find.

Dane (1990) points out the advantage of purposive sampling is that it allows the researcher to home in on people or events, which have good grounds in what they believe, will be critical for the research. Instead of going for the typical instances, a cross-section or a balanced choice, the researcher will be able to concentrate on instances which display wide variety – possible even focus on extreme cases to illuminate the research question at hand. In this sense it might not only be economical but might also be informative in a way that conventional probability sampling can not be (Descombe, 1998). With a non-probability sampling methods the researcher feels that it is not feasible to include a sufficiently large number of examples in the study, this very much goes hand in hand with qualitative research. The aim of the study is to explore the quality of the data not the quantity (Nachmias, 1996).

There are, however, some sound theoretical reasons why most qualitative research uses non-probability-sampling techniques and good practical reasons why qualitative researcher deals with small numbers of instances to be researched. There are in fact two things, which can be said about sample size in qualitative research. Firstly, it is unlikely to be known with precision or certainty at the start of a research project. Second, the sample size will generally be very small. Both points can be unnerving. They go against the grain as far as conventional survey approaches are concerned, and open up the prospect of accusations of sloppy and biased research design. The researcher is quite

explicit about the use of non-probability sampling (Miles & Huberman, 1994). Another point is that phenomenology is well suited to purposeful sampling. This type of sampling permits the selection of interviewees whose qualities or experiences permit an understanding of the phenomena in question, and are therefore valuable. This is the strength of purposive sampling.

One justification for using the non-probability purposive sampling is that it stems from the idea that the research process is one of "discovery" rather than testing of hypotheses. It is a strategy where Lincoln & Guba (1985) describe as 'emergent and sequential'. Almost like detective, the researcher follows a trail of clues, which leads the researcher in a particular direction until the questions have been answered and things can be explained (Robson, 1993).

The major problem with purposive sampling is that the type of people who are available for study may be different from those in the population who can't be located and this might introduce a source of bias.

Purposive sampling has many variants and these are described later. In purposive sampling, we sample with a purpose in mind based on either the skill or need or judgement of the typical sample element that can give us what we want. Purposive sampling can be very useful for situations where you need to reach a targeted sample quickly and where sampling for proportionality is not the primary concern. With a purposive sample, you are likely to get the opinions of your target population, but you are also likely to overweight subgroups in your population that are more readily accessible. The following are the variants of purposive sampling:

Theoretical Purposive Sampling

Building grounded theory requires an iterative process of data collection, coding, analysis, and planning what to study next. The researcher needs to be theoretically sensitive as they are collecting and coding data to sense where the data is taking them and what to do next. Coming into a research program with an existing theoretical framework will merely blind them to the richness of the incoming data. Researchers who want to build a theory that is grounded in the data use theoretical purposive sampling.

Theoretical purposive sampling strives to identify typical or particular types of sample elements for in depth investigation since doing so probabilistically on the whole alternative sample elements would lead to inoculating atypical and inappropriate sample elements (Nkhata, 1988; Neuman, 2000). As this iterative process continues, the researcher may explore the same group more deeply or in different ways, or may seek out new groups. Comparison groups should be selected based on their theoretical relevance to further the development of emerging categories. It is best to pick the groups as you go along than choose them all beforehand -- let the data be your guide. In theory generation, non-comparability of groups is irrelevant, but it can have an effect on the

level of substantive theory developed and it's thus important to pick the right group for the next part of the comparative research. Theoretical purposive sampling is best suited for field studies, which have a prime focus on the topic than the desire to meet the population's representative ness (Bernard, 2000). Theoretical purposive sampling has to be done upfront or progressively sequentially by a rolling process interleaved with concurrent analysis of groups or categories and the sample size will only be attained once saturation is attained, that is to say no additional data is being found in any new case.

Qualitative samples that are obtained by theoretical sampling are usually designed to make possible analytic generalizations (those that have to be applied to wider theory on the basis of how selected cases 'fit' with general constructs), but not statistical generalizations (applied to wider populations on the basis of representative statistical samples). For example, Miles and Huberman (1994: 27–28), argue that qualitative sampling can provide the opportunity to select and examine observations of generic processes, which are key to our understanding of new theory about the phenomenon being studied.

Accidental, Haphazard or Convenience Sampling

Convenience sampling is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the truth. As the name implies, the sample is selected because they are convenient. This nonprobability method is often used during preliminary research efforts to get a gross estimate of the results, without incurring the cost or time required to select a random sample. Accidental samples are the favourite person on the street who is given a questionnaire or interviewed. Also called haphazard sampling, examples include interviewing people who emerge from an event or location, interviewing a captive audience such as one's students, and mail-in surveys printed in magazines and newspapers. There are subtypes of availability sampling and these may include the following:

Quota Sampling

Quota sampling is the nonprobability equivalent of stratified sampling. Like stratified sampling, the researcher first identifies the strata and their proportions as they are represented in the population. Then convenience or judgment sampling is used to select the required number of subjects from each stratum. This differs from stratified sampling, where the strata are filled by random sampling. Quota sampling is a type of stratified availability sampling, but with the constraint that proportionality by strata be preserved. Quota sampling is rarely used in academic social science research. It is frequently used in opinion polls, market research. The aim of quota sampling is to produce a sample that reflects proportions in different categories like gender age ethnicity groups, social economic status etc similar to what is obtaining in the population. Once the categories

have been created, the researcher then selects sample units from each of these. Quota sampling has a number of variations and the notable ones include:

- 1) Maximum variation sampling is a variant of quota sampling, in which the researcher purposively and non-randomly tries to select a set of cases that exhibit maximal differences on variables of interest. Instead of seeking representativeness through equal probabilities, maximum variation sampling seeks it by including a wide range of extremes. The principle is that if you deliberately try to interview a very different selection of people, their aggregate answers can be close to the whole population's. The method sounds odd, but works well in places where a random sample cannot be drawn. This is an extension of the statistical principle of regression towards the mean - in other words, if a group of people is extreme in several different ways, it will contain people who are average in other ways. So if you sought a "minimum variation" sample by only trying to cover the types of people who you thought were average, you'd be likely to miss out on a number of different groups that make up quite a high proportion of the population. But by seeking maximum variation, average people are automatically included.

A maximum variation sample (sometimes called a maximum diversity sample or a maximum heterogeneity sample) is a special kind of purposive sample. Normally, a purposive sample is not representative, and does not claim to be. However, a maximum variation sample, if carefully drawn, can be as representative as a random sample. Despite what many people (with a little knowledge of statistics) believe, a random sample is not necessarily the most representative, specially when the sample size is small.

1. Further variations include extreme or deviant case sampling or typical case sampling.

There are two types of quota sampling: proportional and non-proportional. In proportional quota sampling you want to represent the major characteristics of the population by sampling a proportional amount of each. For instance, if you know the population has 40% women and 60% men, and that you want a total sample size of 100, you will continue sampling until you get those percentages of men and then you will stop when you attain them. Therefore, if you've already got the 40 women for your sample, but not the sixty men, you will continue to sample men but even if legitimate women respondents come along, you will not sample them because you have already "met your quota." The problem here (as in much purposive sampling) is that you have to decide the specific characteristics on which you will base the quota. Will it be by gender, age, education race, religion, etc.?

Non-proportional quota sampling is a bit less restrictive. In this method, you specify the minimum number of sampling units you want in each category. Here, you're not

concerned with having numbers that match the proportions in the population. Instead, you simply want to have enough to assure that you will be able to reach even small groups in the population. This method is the non-probabilistic is analogous of stratified random sampling in that it is typically used to assure that smaller groups are adequately represented in your sample.

Expert Sampling or Judgment Sampling.

This is where the researcher interviews a panel of individuals' known to be expert in a field. Expertise is any special knowledge, not necessarily formal training. Depending on the topic of study, experts may be policy issue academics or devotees to a popular culture fad. Critical case sampling is a variant of expert sampling, in which the sample is a set of cases or individuals identified by experts as being particularly significant (example: award winners in a given field). Expert sampling involves the assembling of a sample of persons with known or demonstrable experience and expertise in some area. Often, we convene such a sample under the auspices of a "panel of experts." There are actually two reasons you might do expert sampling. First, because it would be the best way to elicit the views of persons who have specific expertise. In this case, expert sampling is essentially just a specific sub case of purposive sampling. Nevertheless, the other reason you might use expert sampling is to provide evidence for the validity of another sampling approach you've chosen. For instance, let us say you do modal instance sampling and are concerned that the criteria you used for defining the modal instance are subject to criticism.

Snowball Sampling Chain Referral Sampling

Treading an uneasy line between the dictates of replicable and representative research design and the more flowing and theoretically led sampling techniques of qualitative research, snowball sampling lies somewhat at the margins of research practice. Snowball sampling may simply be defined as a technique for finding research subjects whereby one subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on (Berg, 1988; Spreen, 1992; Vogt, 1999). Snowball sampling is a special nonprobability method used when the desired sample characteristic is rare. It may be extremely difficult or cost prohibitive to locate respondents in these situations. Snowball sampling relies on referrals from initial subjects to generate additional subjects. Snowball sampling can be placed within a wider set of link-tracing methodologies (Spreen, 1992) which seek to take advantage of the social networks of identified respondents to provide a researcher with an ever-expanding set of potential contacts (Thomson, 1997). This process is based on the assumption that a 'bond' or 'link' exists between the initial sample and others in the same target population, allowing a series of referrals to be made within a circle of acquaintance (Berg, 1988).

Snowball sampling can be applied for two primary purposes. Firstly, and most easily, it is as an 'informal' method to reach a target population. If the aim of a study is primarily

explorative, qualitative and descriptive, then snowball sampling offers practical advantages (Hendricks, et al., 1992). Snowball sampling is used most frequently to conduct qualitative research, primarily through interviews. Secondly, snowball sampling may be applied as a more formal methodology for making inferences about a population of individuals who have been difficult to enumerate through the use of descending methods such as household surveys (Snijders, 1992; Faugier and Sergeant, 1997).

However, the technique offers real benefits for studies which seek to access difficult to reach or hidden populations. These are often obscured from the view of social researchers and policy makers who are keen to obtain evidence of the experiences of some of the more marginal excluded groups. Policy makers and academics have long been aware that certain 'hidden' populations, such as the young, male and unemployed, are often hard to locate. Other groups such as criminals, prostitutes, drug users and people with unusual or stigmatised conditions (e.g. AIDS sufferers) pose a range of methodological challenges if we are to understand more about their lives.

Snowball samples have a number of deficiencies and these relate to problems of representativeness and sampling principles. The quality of the data and in particular a selection bias that limits the validity of the sample are the primary concerns of recent snowball sampling research (Van Meter, 1990; Kaplan et al, 1987). Because elements are not randomly drawn, but are dependent on the subjective choices of the respondents first accessed, most snowball samples are biased and do not therefore allow researchers to make claims to generality from a particular sample (Griffiths et al, 1993). Secondly, snowball samples will be biased towards the inclusion of individuals with inter-relationships, and therefore will over-emphasise cohesiveness in social networks (Griffiths et al, 1993) and will miss 'isolates' who are not connected to any network that the researcher has tapped into (Van Meter, 1990).

The problem of selection bias may be partially addressed, firstly through the generation of a large sample and secondly by the replication of results to strengthen any generalisations. At present, a statistical formalisation of snowball sample biases is not available (Van Meter, 1990). The ideal number of links in a referral chain will vary depending on the purpose of the study. More links in each chain will generate substantial data about a particular sample, and may also allow access to those most difficult to identify (e.g. those respondents who require the greatest level of trust to be built up before participating). However, it is also more likely that members of such a large single chain sample will share similar and unique characteristics not shared by the wider population. Thus, there may be a case for initiating several discrete chains with fewer links, particularly where any inference about a wider hidden population is considered important.

By their very nature, members of a hidden population are difficult to locate. Often studies require some previous 'knowledge of insiders' in order to identify initial respondents. Such

prior knowledge may not be readily available to researchers and it may be very time consuming and labour intensive to acquire. Under these circumstances it is possible that people in positions of relative authority or proximity may provide a route into the required population (Groger et al, 1999).

Activity 5



- 1) Could you explain the importance of sampling in research in five ways?
- 2) What are the variants of sampling techniques, which are appropriate in a qualitative as well as in a quantitative design?
- 3) Describe the theoretical basis of probability and non-probability sampling.

Summary 5



It is important to understand the different sampling methods used in social research. It is more or less impossible to study every single person in a target population so researchers select a sample or sub-group of the population that is likely to be representative of the target population or a typical group that has the attribute. If the sample we select is going to represent the target population then we need to make sure that the people in it are similar to the other members of the target population. This is important because we want to generalize from the sample to target population. Again, if the sample we want to select is not about representing a population, then we need to make sure that we look for these people. We must have strong theoretical reasons for their choice of units (or cases) to be included in their sample.

6.0 Unit Six – Measurement in Research

6.1 Unit Six Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) What is the importance of levels of measurement in research?
- 2) Describe the four types of data levels of measurement.
- 3) Differentiate the four types of levels of measurement.
- 4) What types of analysis are appropriate for the four levels of measurement?

Here is the point of reflection before we look at this sub unit



Reflection

- 1) Have you ever thought of how variables can be measured in research?
- 2) Would you say all variables could be analysed in the same way?

Levels of measurement



In this unit, we are going to discuss levels of measurement, which are very critical in nomothetic research designs. In this unit, you will learn about the four data levels of measurement (nominal, ordinal, interval, and ratio) and why they are important.

Importance of Data Levels of measurement

Let us deal with the importance part first. Knowing the level of measurement of your variables is important for two reasons. Each of the levels of measurement provides a different level of detail. The level of detail determines how a variable will be treated in the analysis. The "levels of measurement", or scales of measure are expressions that typically refer to the theory of scale types developed by the psychologist Stanley Smith Stevens. Stevens proposed his theory in a 1946 Science article titled "On the theory of scales of measurement". (Alpa, 1985; 1987²⁴⁰). In that article, Stevens claimed that all measurement in science was conducted using four different types of scales that he called "nominal", "ordinal", "interval" and "ratio".

Types of Levels of measurement

The first level of measurement is nominal level of measurement. Nominal measurement. The word nominal means "name." To be measured at the nominal level, a variable must be able to be divided up into separate or discrete categories, which are then named. The measure must provide one, and only one, category or numerical value for each possible occurrence of the variable.

In this level of measurement, the numbers in the variable are used only to classify the data. In a nominal level variable, values are grouped into discrete categories that have no meaningful order. For example, gender and political affiliation are nominal level variables. Members in the group are assigned a label in that group and there is no hierarchy. Nominal level of measurement provides the least amount of detail, ordinal provides the next highest amount of detail, and interval and ratio provide the most amount of detail. In this level of measurement, words, letters, and alpha-numeric symbols can be used (Loether and McTavish, 1974)²⁴¹. Suppose there are data about people

²⁴⁰ Alper, T. M. (1985). A note on real measurement structures of scale type $(m, m + 1)$. Journal of Mathematical Psychology, 29, 73–81.

Alper, T.M. (1987). A classification of all order-preserving homeomorphism groups of the reals that satisfy finite uniqueness. Journal of Mathematical Psychology, 31, 135–154.

²⁴¹ Loether, H., & McTavish, D. (1974). Descriptive statistics for sociologists. Boston: Allyn and Bacon.

belonging to three different gender categories. In this case, the person belonging to the female gender could be classified as F, the person belonging to the male gender could be classified as M, and transgendered classified as T. This type of assigning classification into categories²⁴² is what makes this as nominal level of measurement.

In terms of analysis, typical descriptive statistics are associated with nominal data are frequencies and percentages. The central tendency of a nominal attribute is given by its mode; neither the mean nor the median can be defined.

The second level of measurement is the ordinal level of measurement. In ordinal measurement, the numbers represent categories, but they function as much more than labels. They represent the concept of magnitude in the entity being measured (Glass & Hopkins, 1996²⁴³). This means that higher numbers on the scale represent more of the thing being measured.

This level of measurement depicts some ordered relationship among the variable's observations. Suppose a student scores the highest grade of 100 in the class. In this case, he would be assigned the first rank. Then, another classmate scores the second highest grade of 92; she would be assigned the second rank. A third student scores 81 and he would be assigned the third rank, and so on. The ordinal level of measurement indicates an ordering of the measurements. Rank-ordering data simply puts the data on an ordinal scale (Glass and Hopkins, 1996; Lane, 2003)²⁴⁴²⁴⁵. While ordinal measurements describe order, but not relative size or degree of difference between the items measured, in this scale type, the numbers or codes are assigned to objects or events that represent the rank order (1st, 2nd, 3rd, etc.) of the entities assessed. Therefore, what we are saying here is that ordinal scales lack is the concept that the distance between each of the levels is exactly the same. This concept is called equal intervals, and ordinal scales do not have equal intervals: thus, the amount of difference between 0 and 1 is not necessarily the same as the difference between 2 and 3. For example, the difference between no pain of failure and mild pain of failure may differ a great deal from the difference between mild pain of failure and moderate pain of failure. We don't have equal intervals, so we don't know exactly how much more pain of failure "moderate" represents than "mild." However, since we have magnitude in this scale, we do know that "moderate pain of failure" means the student has more pain of failure than if the rating was "mild pain of failure." This is

²⁴² Variables assessed on a nominal scale are called categorical variables; see also categorical data.

²⁴³ Glass, G., & Hopkins, K. (1996). *Statistical methods in education and psychology* (3rd ed.). Boston: Allyn and Bacon.

²⁴⁴ Glass, G., & Hopkins, K. (1996). *Statistical methods in education and psychology* (3rd ed.). Boston: Allyn and Bacon.

²⁴⁵ Lane, D. (2001). *Hyperstat online textbook* [An online statistics textbook].

Retrieved December, 2017, from <http://davidmlane.com/hyperstat/> A30751 .html.

the meaning of magnitude, and it is a feature of measurement that is intrinsic to ordinal and higher scales.

A Likert Scale is a type of ordinal scale except that it is a grouped assessment of some phenomenon of more than five ordinal items and may also use names with an order such as: "bad", "medium", and "good"; or "very satisfied", "satisfied", "neutral", "unsatisfied". In summary, ordinal and Likert measures have categories and magnitude, but they do not have equal intervals.

In terms of analysis, when using an ordinal scale, the central tendency of a group of items can be described by using the group's mode (or most common item) or its median (the middle-ranked item), but the mean (or average) cannot be defined.

The third level of measurement is the interval level of measurement. The next level of measurement is interval measurement. Interval measures have categories and magnitude, just like nominal and ordinal measures. But this measure adds the concept that the intervals between each measure are exactly equal. The interval level of measurement not only classifies and orders the measurements, but it also specifies that the distances between each interval on the scale are equivalent along the scale from low interval to high interval²⁴⁶²⁴⁷. For example, an interval level of measurement could be the measurement of anxiety in a student between the score of 10 and 11, this interval is the same as that of a student who scores between 40 and 41. A popular example of this level of measurement is temperature in centigrade, where, for example, the distance between 940C and 960C is the same as the distance between 1000C and 1020C. A particular limitation of interval scales is that while some mathematical manipulations can be done (mean, addition, subtraction), others are less reliable.

In terms of analysis, the central tendency of a variable measured at the interval level can be represented by its mode, its median, or its arithmetic mean. Statistical dispersion can be measured in most of the usual ways, which just involved differences or averaging, such as range, interquartile range, and standard deviation.

The fourth level of measurement is the ratio level of measurement. This scale is near to discussing 'length'. It is not an interval scale. . It has an absolute zero. The concept of zero centimetres makes sense: It is the length at the very start of whatever we are measuring. Because of the absolute zero length, it is meaningful to say, "Four centimetres is twice as long as two centimetres." Ratio scales allow virtually any kind of algebraic transformation. A ratio measurement scale has category, magnitude, equal intervals, and

²⁴⁶ Glass, G., & Hopkins, K. (1996). *Statistical methods in education and psychology* (3rd 4). Boston: Allyn and Bacon.

²⁴⁷ Lane, D. (2001). *Hyperstat online textbook* [An online statistics textbook]. Retrieved December, 2002, from <http://davidmlane.com/hyperstat/A30751.html>.

an absolute zero point (Schmidt, 1975²⁴⁸). In the ratio level of measurement, the divisions between the points on the scale have an equivalent distance between them.

In terms of analysis, all statistical measures can be used for a variable measured at the ratio level, as all necessary mathematical operations are defined. The central tendency of a variable measured at the ratio level can be represented by, in addition to its mode, its median, or its arithmetic mean, also its geometric mean or harmonic mean. In addition to the measures of statistical dispersion defined for interval variables, such as range and standard deviation, for ratio variables one can also define measures that require a ratio, such as studentised range or coefficient of variation.

Activity 6



- 1) Describe the attributes of the four data levels of measurement.
- 2) Why is the ratio scale of measurement given the highest ranking?
- 3) What differentiates the ordinal scale of measurement from the Likert scale of measurement?
- 4) Is it possible to analyse the four data levels of measurement in the same way, discuss?

²⁴⁸ Schmidt, M. (1975). Understanding and using statistics: Basic concepts. Lexington, MA: D.C. Heath.
Larson, R., & Farber, 8. (2003). Elementary statistics: Picturing the world [Prepublication instructor's copy] (2nd ed.). Upper Saddle River, **NJ**: Prentice Hall.
Boston: Allyn and Bacon.

Summary 6



A variable has one of four different levels of measurement: Nominal, Ordinal, Interval, or Ratio. (Interval and Ratio levels of measurement are sometimes called Continuous or Scale). It is important for the researcher to understand the different levels of measurement, as these levels of measurement, together with how the research question is phrased, dictate what statistical analysis is appropriate.

7.0 Unit Seven – Data Collection Methods

7.1 Unit Seven Objectives (What you must know and do)



At the end of unit one, you should be able to;

- 1) Describe the dominant data collection techniques used in social research.
- 2) Justify the selection of the data collection techniques based on limitations and strengths.

Here is the point of reflection before we look at this sub unit



Reflection

- 1) One student postulated quantitative and qualitative data could be collected using any tool. What is your take on this statement?
- 2) Have you ever used any quantitative or qualitative tool in any previous research? If you did, what was it that you had used?
- 3) Let us see what you have said and what is in this unit.

Data Collection Methods



In this unit, we are going to discuss the tools researchers use to collect data. There are numerous data collection techniques and tools which are used in social research. In this module, we look at the commonest ones.

Ideally, researchers use a variety of data collection tools and techniques in their studies as strategic tools to gather information on participants or respondents, programs, and other elements. The data collection method influences a number of factors²⁴⁹. The data collection method also has a bearing on the timetable of the research process and on the quality of the final results. These aspects interact with each other in many ways. The method chosen to collect data must be determined from an extensive literature search to determine what tools are available that will get at the question which has been asked. The methods to collect the data must be reliable and consistency must be obtained. Different data collection methods allow for very different sample sizes, and the number of respondents determines the degree of reliability with which the results may be generalised to various population segments. However, it must be remembered that each data collection method has its own set of strengths and weaknesses (relative trade-offs) and these should be taken into account in determining which method(s) the researcher wishes to use. Below are the characteristics of pertinent data collection methods which we hope you will use.

Personal Interviews

At the most basic level, interviews are conversations (Kvale, 1996). Kvale defines qualitative research interviews as "attempts to understand the world from the subjects' point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations. Personal Interviews are most often used to gather detailed, qualitative descriptions of phenomena how social actors perceive them. Personal interviews are conducted one-on-one. Interviews can be conducted in person or by phone. Questions are generally open-ended and responses are documented in thorough, detailed notes or transcription. However, some interviews use structured quantitative response categories.

There two types of personal interviews which researchers may apply in any research design. These are traditional interviews or directive interviews and ethnographic interviews or non-directive interviews. In a traditional interviews which are used by positivists and post positivists, the interviewer operates from the perspective were he takes himself as the expert claiming that he knows what he wants to find out, so he sets up the agenda knowing what is best for the respondent. In contrast, in ethnographic interviews, the respondent has the greatest opportunity to select the important information to share. The researcher does not take himself as an expert and he operates from an I don't know much about the respondent's point of view, so I need to encourage them to set the agenda" hoping to see if I can thoroughly understand the respondents

²⁴⁹ The choice of data collection method is not an isolated decision in survey design, as it influences the whole statistical survey process. For instance, it has an impact on the design and preparation of the questionnaire, on the quantity and quality of the data that are to be collected, and on the cost and the timetable of the survey.

point of view (Kvale, 2003²⁵⁰²⁵¹; Cohen and Mannion, 2007; Creswell, 2009; Neuman, 2013²⁵²).

In ethnographic interviews, researchers employ non-directive or descriptive open-ended questions when they want respondents to offer a descriptive account. Descriptive questions are broad and general and allow people to describe their experiences, their daily activities, and objects and people in their lives (Denzin and Lincoln, 2005²⁵³; Fetterman, 2010²⁵⁴). These descriptions provide the interviewer with a general idea of how individuals see their world. Ethnographic interviews begin with descriptive questions like "Please describe to me how you prepare this type of food?" As you can see, the interviewer begins with a grand tour.

Responses to the descriptive questions will enable the interviewer to discover what is important to respondents. As interviewers listen to answers to descriptive questions, they begin to hear words or issues repeated. These words or issues represent important categories of knowledge. The interviewer may then want to understand the relationships that exist among these categories. The desire to understand these specific issues will warrant the researcher to ask directive or closed ended questions (Kvale, 1996²⁵⁵; Gubrium and Holstein, 2002²⁵⁶).

Computer Assisted Personal Interviewing (CAPI):

This is a form of personal interviewing, but instead of completing a questionnaire, the interviewer brings along a laptop or hand-held computer to enter the information directly into the database. This method saves time involved in processing the data, as well as saving the interviewer from carrying around hundreds of questionnaires. However, this type of

²⁵⁰ Kvale, S. (2003). The psychoanalytic interview as inspiration for qualitative research. In P. M. Camic, J. E. Rhodes, & L. Yardley (Eds.), *Qualitative research in psychology* (pp. 275– 297). Washington, USA: American Psychological Association.

²⁵¹ Cohen, L., Manion, L., & Morison, K. (2007). *Research Methods in Education*. (6th ed.). London: Routledge.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (3rd Ed.). Thousand Oaks, CA: Sage.

²⁵² Neuman, W.L. (2013). *Social Research Methods: Pearson New International Edition: Qualitative and Quantitative Approaches* (7e) Pearson Higher Ed USA.

²⁵³ Denzin, N.K., & Lincoln, Y.S. (2005). Introduction: The discipline and practice of qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds.), *The sage handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.

²⁵⁴ Fetterman, D. M. (2010). *Ethnography: Step-by-step* (3rd Ed.). Thousand Oaks, CA: Sage.

²⁵⁵ Kvale, S. (1996). *InterViews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.

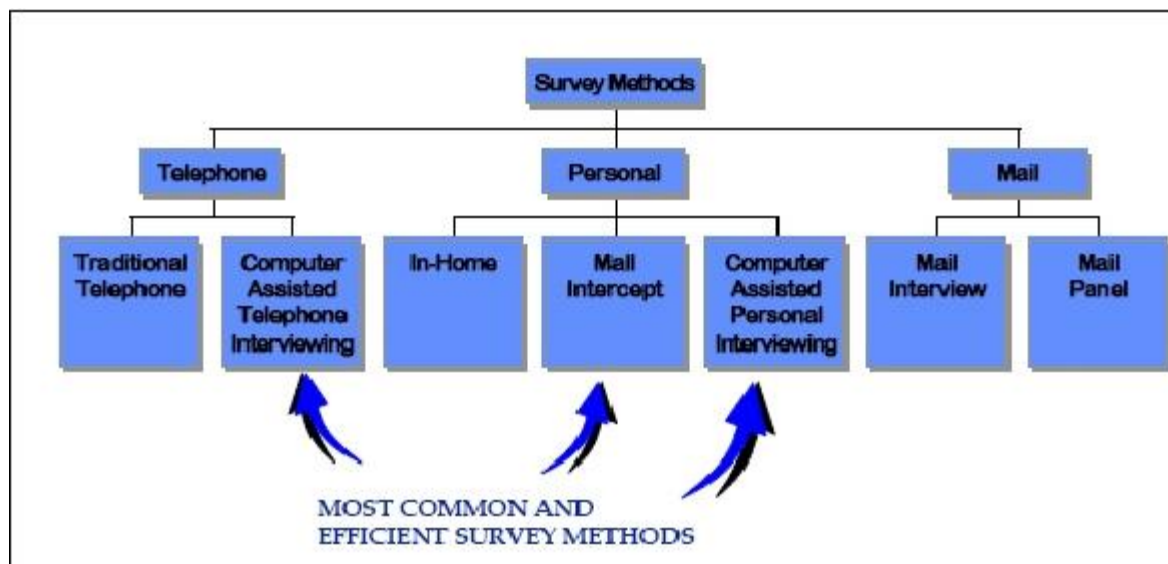
²⁵⁶ Gubrium, J. F. & Holstein, J. A. (Eds.). (2002). *Handbook of Interview Research: Context and Method*. Thousand Oaks, CA: Sage.

data collection method can be expensive to set up and requires that interviewers have computer and typing skills.

Computer Assisted Telephone Interviewing (CATI):

This is a type of telephone interview, but with the interviewer keying respondent answers directly into a computer. This saves time involved in processing data, but can be expensive to set up, and requires interviewers to have computer and typing skills. Statistics Canada uses this approach for many of its surveys such as the Youth In Transition Survey, the Monthly Survey of Manufacturing, the General Social Survey and the Workplace Employee Survey.

Figure 2: A Classification of Survey Methods Based on Method of Administration



Asking Principles

There are ways of asking questions so that they facilitate the development of rapport and an effective interview. The following are general principles to consider when asking questions:

- **Ask for use instead of meaning.** If the interviewer asks for meaning, clients may provide information that may or may not be useful or specific.
- **Use open-ended questions rather than dichotomous questions that trigger a yes or no response.** For example, asking Idah, " In what situations do you get angry with your husband, may elicit more information than the question, " Is your husband provocative?"

- **Restate what the respondent says by repeating the client's exact words; do not paraphrase or interpret.** Restating what the respondent says lets the person know that you are listening and ensures that you are not interpreting the respondent's statements from your own perspective.
- **Summarize the client or parent's statements and give them the opportunity to correct you if you have misinterpreted something they have said.** It is beneficial to summarize not only at the end of an interview, but also at points within the interview where a change of topic occurs. This helps to clarify issues before moving on or concluding the interview.
- **Avoid a barrage of questions.** For example, if the researcher asks, "Idah, you mentioned that your husband is provocative. What things does he say to you, in what situations do you get angry, and what do you do to show your displeasure?"
- **Avoid using why questions** because such questions tend to sound judgmental and assume that the person knows why. Instead of ask for reasons.

Table 5.1 Relative Trade-offs of Personal Interviewing

| Method/ Procedure | Strengths | Weaknesses |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Interviewing | <ul style="list-style-type: none"> ▪ "Personal touch" helps establish respondents' "buy-in;" can build rapport & confidence ▪ Researcher can clarify respondents' questions and help ensure that any complex instructions are correctly followed ▪ Researcher can probe for additional clarification information as needed ▪ Researcher can "multimethodly" combine interviewing with his/her own observations (i.e., respondents' body language, visual, non-verbal cues) ▪ Provide rich data that paint a broad picture. ▪ May highlight issues not previously considered or information that is useful for interpreting quantitative data collected through other methods. ▪ It is a good approach for ensuring a high response rate to a sample survey or census, and trained interviewers gather better quality data. | <ul style="list-style-type: none"> ▪ May be more costly in time and money than some other procedures ▪ May necessitate identifying & training assistants on-site ▪ Some "hard-to-reach" samples (i.e., those who work outside the home; high-level professionals) may be difficult to reach. ▪ However, there are some disadvantages to this approach. Respondents may not always be available for interviews and the travel costs of the interviewer could be high. |

Table 5.2
Relative Trade-offs of Telephone Interviewing

| Method/Procedure | Strengths | Weaknesses |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Telephone Interviewing | <ul style="list-style-type: none"> • Less costly than personal interviewing • Can use technological time-savers such as "RDD" (random-digit dialling) to access large random samples • More convenient access to certain "hard-to-reach" populations than for personal interviews • Tend to get better response rates than mailed surveys - again, due to the personal contact (by phone) | <ul style="list-style-type: none"> • Possible sampling limitation since it excludes those without telephones • Non-response associated with RDD sampling (please see preceding column) is higher than for personal interviews • More limited in terms of 'visual cues:' i.e., researcher can't observe body language & nonverbal cues; can't show respondents visual aids or other handouts that may be pertinent to the questions being asked • May be less successful in cases of research on 'sensitive respondents,' without the face-to-face contact |

Focus Groups²⁵⁷

The focus group technique uses a small group to explore issues in depth. It is a group interview research tool that is based on facilitating an organized discussion with a group of individuals selected because they are believed to be representative of some class. The

²⁵⁷ Originally developed for market research, a focus group is a group interview or discussion. The focus may be on a particular topic of interest, for example a health problem, or the group may be focused, in the sense that its members have common characteristics. The term is increasingly used to refer to any group discussion where group interaction is used to generate . Focus groups tend to be open-ended and have less structured protocols (i.e., researchers may change the data collection strategy by adding, refining, or dropping techniques or informants). They rely more heavily on iterative interviews; respondents may be interviewed several times to follow up on a particular issue, clarify concepts or check the reliability of data. They use triangulation to increase the credibility of their findings (i.e., researchers rely on multiple data collection methods to check the authenticity of their results). Their findings are not generalisable to any specific population; rather each case study produces a single piece of evidence that can be used to seek general patterns among different studies of the same issue.

interview is not based on a question and answer type of format but on the interaction within the group. The discussion is used to bring out insights and understandings in ways which simple questionnaire items may not be able to tap (Krueger and Casey, 2000; Mertens, 1998). Focus group research has long been prominent in studies that seek to tap emotional and unconscious motivations not amenable to the structured questions of conventional survey research. The interaction among focus group participants brings out differing perspectives through the language that is used by the discussants. People are caught up in the spirit of group discussion and may reveal more than they would in the more formal interview setting. As discussants ask questions of each other, new avenues of exploration are opened. In discussions, multiple meanings are revealed as different discussants interpret topics of discussions in different ways. Interaction is the key to successful focus groups. In an interactive setting, discussants draw each other out, sparking new ideas. The reactions of each person spark ideas in others, and one person may fill in a gap left by others. One may even find a form of collaborative mental work, as discussants build on each other to come to a consensus that no one individual would have articulated on their own (Krueger, 1988²⁵⁸; Krueger and Casey, 2000²⁵⁹).

Ideally, in focus group studies, there is no standard instrument to guide the topic as we may see in survey interviewing or direct personal interviews; only a topic is explored through the exchange of group discussion. For instance, a start-up topic question might be, "What are the concerns of voters in the next national elections?" The characteristics of focus group questions have been lineated by Morgan (1998²⁶⁰), Krueger and Casey (2002) and Krueger (2000²⁶¹) as enunciated below:

1. Focus groups should be organised with people fewer than 10 but not less than 4 and dealing with 5 to 7 topical issues or questions.
2. Focus groups are structured on the basis of open-ended interviews.
3. Avoid using why questions instead ask for the reasons.
4. Arrange your questions in an orderly manner beginning with generals and transcending to specifics.

The discussants have a strong influence on the subtopics, which are examined, and the insights, which are yielded. Where survey research, even group survey research, requires a priori theory or at least a list of subtopics as a guide for selection of items to be included in the survey instrument, there is no a priori theory in focus group research. Focus groups are a method of choice where the dynamics, which determine outcomes, are not well known and surprises are expected, as in marketing research, instrument review and

²⁵⁸ Richard A. Krueger & Mary Anne Casey (2000). *Focus Groups. A Practical Guide for Applied Research* (3rd Edition). Thousand Oaks, CA: Sage Publications

²⁵⁹ Richard A. Krueger & Mary Anne Casey (2000). *Focus Groups. A Practical Guide for Applied Research* (3rd Edition). Thousand Oaks, CA: Sage Publications.

²⁶⁰ Morgan, D. L. (1998). *The focus group guidebook*. Thousand Oaks, CA: Sage. Morrison-Beedy,

²⁶¹ Krueger, R. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: Sage

service programmes where focus groups are brought together to react to product or candidate advertisements or needs sensing for training or service programmes (Mertens, 1989²⁶²). In focus groups participants are able to elicit varying points of view or meanings to issues. It is in the focus groups that the researcher is likely to gain insights on the schema used by participants to address a problem. If at all there are any differences on a matter, in focus groups, these differences are likely to be addressed.

In focus groups, there are people other than the participants who facilitate the discussion depending on the design of the study and these are the moderator, assistant moderator and several logistics personnel (The moderator and assistant moderator ask questions and facilitate group interaction. Logistics personnel arrange the interview site, identify and contact respondents, and see that they all arrive at the same time, arrange refreshments, record the session, and take notes). The role of the focus group moderator is to facilitate, not dominate discussion. The moderator encourages the participation of everyone and seeks to limit the domination of discussion by a few discussants. The moderator may also give prompting questions ("probes") to elicit expansion on interesting subtopics, such as "Give us an example of praying in tongues?" "Tell us more about that," "Keep talking," or "Can someone summarize what we've been saying." The moderator will not ask closed-ended, yes-no questions, such as "Do you prefer a born again Christian sharing this Sunday?" Instead always using non-directive prompts like "What is your reaction to a born again Christian sharing this Sunday?" The moderator may also seek to return conversation to the topic at hand. Finally, the moderator may take notes or record the conversation of the group, though often that role is left to an assistant moderator. The moderator must record not only overt statements, but must also be sensitive to omissions, choice of words. Non-verbal communications, expressions of emotion, energy levels, and the roles played by the discussant. Because of the strong role of the moderator, usually the same one is used if there are multiple groups, in an attempt to control for the influence of the moderator. While moderators want diversity, be careful to watch for factors that would intimidate some members from speaking openly. These include:

- Wide variations in stratification variables such as education or occupation
- An overwhelming male majority (considerable research indicates that men are much more likely to interrupt women in mixed sex conversations than vice-versa.
- Participants who consider themselves "experts" and who are highly verbal. Moderators in a precession should observe member interaction to identify potential "experts" who would turn discussions into lectures. "Experts" is a somewhat sarcastic term for individuals who believe that they know everything already about the focus group topic. They tend to talk a lot and often also disparage other group members, whom they see as uninformed. Individuals, who are highly

²⁶² Mertens, D. M. (1998). Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches. Thousand Oaks, CA: Sage.

knowledgeable about the focus group topic, even if they are modest, can also be intimidating because they become rapidly perceived as well informed.

Most studies bring the focus group together for one session, but a sequence of meetings is also possible, usually for one or two hours each. Tape excerpts from one meeting may be played back to a subsequent group to obtain reactions. The broader and more ambitious the purposes of doing focus group research, the more groups are necessary. There are times when more groups than one are needed to collect as much data as one would want. Participants may be selected at random or through information, using a snowball reference technique in which the first informant recommends others, who in turn recommend yet others. Participants should be informed of the purposes of the focus group study. Often they are encouraged to participate on a first-name basis, which encourages informality and openness while suggesting greater anonymity. The ethics guidelines regarding use of respondents apply to focus groups.

We divide the activity of conducting a focus group into 'three main phases':

Before The Focus Group:

1. Define the research issues of the focus group and issues need to be clear and searching.
2. Establish a timeline. A focus group cannot be developed overnight. The planning has to start several weeks ahead of the actual session; experts say 6 to 8 weeks realistically. Make sure you have enough time to identify the participants, develop and test the questions, locate a site, invite and follow up with participants, and gather the materials for the sessions.
3. Identify the participants
 - Determine how many participants you need and how many to invite.
 - Develop a list of key attributes to seek in participants based on the purpose of the focus group.
 - Using the list of attributes, brainstorm about possible participants.
 - Secure names and contact information, finalize the list, and send invitations.
4. Generate the questions

Because a focus group will last for little more than one or two hours, you will only have time for four to seven questions. You may include one or two introductory or warm-up questions and then get to the more serious questions that get at the heart of the purpose. To be effective, focus group questions should be open-ended and move from the general to the specific. E.g., after asking the question, "What do you like about the user interface?" you might ask, "If you could build a new user interface from scratch, what would you put in to make a better one?" or "What would make the user interface more appealing to your peers?" or even more

specific, “Do you have any suggestions about what the personae (faces)—what they should look like or what they should do?”

- Once you have a list of questions, look at your purpose statement again.
- Keep questions that are really important and that qualify for your purpose. Eliminate as many questions as possible.
- Rewrite the questions with good editing.
- Order the questions that will be comfortable for the participants, i.e. moving from general to specific.

5. Develop a script

Generating questions is a prelude to developing a more detailed script for your focus group. Plan on a one - to two -hour time frame. A minimum of one hour is recommended because the process requires some time for opening and closing remarks as well as at least one or two questions. Be cautious not to exceed two hours.

There are three parts to a focus group discussion:

The opening is the time for the facilitator to welcome the group, Ice breakers (N.B. ice breakers for the start of the discussion are ideal in the sense that they tend to steady and cheer discussants before delving into the main activity). It is also a useful device to ensure that latecomers do not miss the start of the session. Introduce the purpose and context of the focus group, explain what a focus group is and how it will flow, and make the introductions.

The question section is where you ask the questions that you designed and tested in

The closing section wraps up the focus group. This includes thanking the participants, giving them an opportunity and avenue for further input, telling them how the data will be used, and explaining when the larger process will be completed.

6. Select a facilitator

A focus group facilitator should be able to deal tactfully with outspoken group members, keep the discussion on track, and make sure every participant is heard.

The facilitator should be knowledgeable about the project. He or she can be a staff member, volunteer, or member of a committee or task force.

Be wary of anything about the facilitator (or facilitators) that might make participants uncomfortable. For example, you may not want the organization's executive director to facilitate a staff focus group about a new performance appraisal system.

7. Choose the location

You Need a setting which can accommodate the participants and where they would feel comfortable expressing their opinions.

When choosing a location, ask these questions:

- What message does the setting send? (Is it corporate, upscale, cosy, informal, sterile, and inviting?)
- Does the setting encourage conversation?
- How will the setting affect the information gathered? Will the setting bias the information offered?
- Can it comfortably accommodate nine to fifteen people (six to twelve participants plus facilitators), where all can view each other?
- Is it easily accessible? (Consider access for people with disabilities, safety, transportation, parking, etc.)

8. Conduct The Focus Group:

It's time to actually conduct the session!

The materials you might need for the session are:

Notepads and pencils
Computer with presentation
Flip chart or easel paper
Focus group script
List of participants
Markers
Masking tape
Name tags
Refreshments
Watch or clock

- The facilitator should arrive before the participants, set out the refreshments, and arrange the room so all participants can view one another -- U-shaped seating or all at one table is best.
- As participants arrive, the facilitator should set the tone for a comfortable, enjoyable discussion by welcoming them just as would any gracious host.

- Introduce yourself and the co-facilitator, if used.
- Explain the means to record the session. Make sure you record the session!
- Carry out the focus group as per the plan and script.
- The facilitator should have some room for spontaneity, i.e., asking spontaneous questions that arise from the discussion, probing deeper into a topic.
- Attention to the following items will help ensure success:
 1. Set the tone; participants should have fun and feel good about the session.
 2. Make sure every participant is heard; draw out quieter group members.
 3. Get full answers (not just "we need more money" but "we need more money to hire a receptionist to answer phones").
 4. Monitor time closely; don't exceed time limits.
 5. Keep the discussion on track; try to answer all or most of the questions.
 6. Head off exchanges of opinion about individual items.

When the focus group is winding up, it is prudent to bring the group to closure by summarizing main themes and soliciting suggestions for action. This is sometimes done because focus groups like to feel that they have "accomplished something" even if that "something" is restating the general opinions that were expressed during the session.

Notes

1. Moderators should keep people on track. Memorize your unstructured questions and keep them in front of you. Generally head off diversions and keep people on topic.
2. Control participants who try to monopolize the discussion. Get a feel for your respondents during informal discussion before the focus group session begins.
3. Make sure that moderators and assistants don't monopolize the discussion either! Let people "jump into the silence." just wait a little bit and participants almost certainly will speak. Focus groups represent more of a give and take than general public surveys do...but you gathered these individuals together to let THEM talk!
4. Try to give everyone a chance to contribute. This may mean gently calling on shyer focus group respondents.
5. Be non-judgemental and keep the atmosphere tolerant so people with diverse viewpoints will feel comfortable giving their opinions.
6. Remember those probes! (Is there anything else? What would be your best guess on that? I need an idea of what you mean by...)
7. Control your setting. No barking dogs, ringing telephones, or toddlers making lots of noise. To minimize distractions, see if you can find a room with good lighting (not florescent which makes us all look sick) but no windows, or with window coverings.
8. Review the basic rules for constructing questions (especially open-ended questions).

Ground Rules - It is critical that all members participate as much as possible, yet the session move along while generating useful information. Because the session is often a one-time occurrence, it is useful to have a few, short ground rules that sustain participation, yet do so with focus. Consider the following three ground rules: a) keep focused, b) maintain momentum and c) get closure on questions.

Agenda - Consider the following agenda: welcome, review of agenda, review of goal of the meeting, review of ground rules, introductions, questions and answers, wrap up.

Membership - Focus groups are usually conducted with 6-10 members who have some similar nature, e.g., similar age group, status in a program, etc. Select members who are likely to be participative and reflective. Attempt to select members who do not know each other.

Plan to record the session with either an audio or audio-video recorder. Do not count on your memory. If this is not practical, involve a co-facilitator who is there to take notes.

After each question is answered, **carefully reflect back** a summary of what you heard (the note taker may do this).

Ensure even participation. If one or two people are dominating the meeting, then call on others. Consider using a round- table approach, including going in one direction around the table, giving each person a minute to answer the question. If the domination persists, note it to the group and ask for ideas about how the participation can be increased.

Closing the session - Tell members that they will receive a copy of the report generated from their answers, thank them for coming, and adjourn the meeting.

9. Immediately After Session

- Verify if the tape recorder, if used, worked throughout the session.
- Make any notes on your written notes, e.g., to clarify any scratching, ensure pages are numbered; fill out any notes that don't make senses, etc.
- Write down any observations made during the session. For example, where did the session occur and when, what was the nature of participation in the group? Were there any surprises during the session? Did the tape recorder break?

Documents

Documents that may be used for systematic evaluation as part of a study take a variety of forms. They include advertisements; agendas, attendance registers, and minutes of meetings; manuals; background papers; books and brochures; diaries and journals; event

programs (i.e., printed outlines); letters and memoranda; maps and charts; newspapers (clippings/art press releases; program proposals, application forms, and summaries; radio and television program scripts; organisational or institutional reports; survey data; and various public records. Scrapbooks and photo albums can also furnish documentary material for research purposes. These types of documents are found in libraries, newspaper archives, historical society offices, and organisational or institutional files.

Specific Uses of Documents

Documents can serve a variety of purposes as part of a research undertaking. Let us consider five specific functions of documentary material. First, as indicated above, documents can provide data on the context within which research participants operate—a case of text providing context, if one might turn a phrase. Bearing witness to past events, documents provide background information as well as historical insight. Such information and insight can help researchers understand the historical roots of specific issues and can indicate the conditions that impinge upon the phenomena currently under investigation. The researcher can use data drawn from documents, for example, to contextualise data collected during interviews.

Second, information contained in documents can suggest some questions that need to be asked and situations that need to be observed as part of the research. For example, Goldstein and Reiboldt (2004) did document analysis to help generate new interview questions as they conducted a longitudinal ethnographic study of service use among families living in poor urban communities. Their research demonstrated how one method can complement another in an interactive way. As the authors explain, 'interview data helped focus specific participant observation activities, document analysis helped generate new interview questions, and participant observation at community events provided opportunities to collect documents' (Goldstein & Reiboldt, 2004: 246²⁶³).

Third, documents provide supplementary research data. Information and insights derived from documents can be valuable additions to a knowledge base. Researchers should therefore browse library catalogues and archives for documents to be analysed as part of the research process. In her study of closure of technology teacher education programs, a university-based scholar used newspaper reports, university policy documents, and department self-evaluation data to supplement data gained through interviews (Hoepfl, 1994, as cited in Hoepfl, 1997²⁶⁴).

²⁶³ Goldstein, A. E. & Reiboldt, W. (2004). The multiple roles of low income, minority women in the family and community: A qualitative investigation. *The Qualitative Report*, 9(2), 241–265. Retrieved 5 January 2018, from <http://www.nova.edu/ssss/QR/QR9-2/goldstein.pdf>.

²⁶⁴ Hodder, I. (2000). The interpretation of documents and material culture. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.), Thousand Oaks, CA: Sage, 703–715.
Hoepfl, M. C. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education*, 9(1), Article 4. Retrieved 12 January 2009, from <http://scholar.lib.vt.edu/ejournals/JTE/v9n1/hoepfl.html>.

Survey questionnaires

A formal standardized questionnaire is a survey instrument used to collect data from individuals about themselves, or about a social unit such as a household or a school. A questionnaire is said to be standardized when each respondent is to be exposed to the same questions and the same system of coding responses. The aim here is to try to ensure that differences in responses to questions can be interpreted as reflecting differences among respondents, rather than differences in the processes that produced the answers.

Standardized questionnaires are often used in the field of educational planning to collect information about various aspects of school systems. The main way of collecting this information is by asking people questions – either through oral interviews (face to face or telephone), or by self-administered questionnaires, or by using some combination of these two methods.

We have come to the end of the unit and now attend to the following.

Activity 7



- 1) What would you use to collect data from 5 line managers at ZESCO?
- 2) What would you use to collect data from Shoprite Checkers customers who use NIDO?
- 3) When would you use focus group discussions?

Summary 7



- 1) Discuss the disadvantages of using a survey questionnaire, Focus Group discussion and personal interviews.
- 2) What data collection technique do you prefer? Justify your choice.

